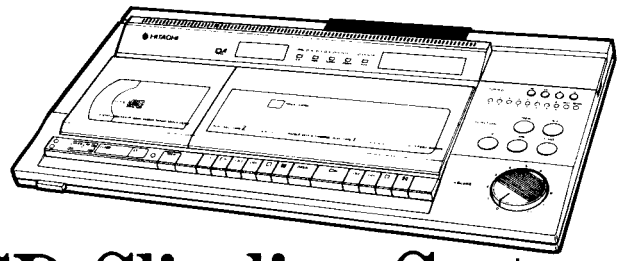
HITACHI
SERVICE MANUAL

TY | No. 552 EF

MX-W30
(US,CS,ES,VS,BK,SA,KS,ZS,EW)

AQ06

except BK
TAPE1: TN-21H-981 (PLAY)
TAPE2: TN-21H-980 (REC/PLAY)
for BK
TAPE1: TN-21H-581 (PLAY)
TAPE2: TN-21H-580 (REC/PLAY)



CD Slimline System

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CAUTION
DANGER
Invisible laser radiation when open and interlocks failed or defeated. AVOID DIRECT EXPOSURE TO BEAM.

GEFAHR
Unsichtbare Laser-Strahlung wenn Interlock (Blockierung) funktionsuntüchtig oder abgeschaltet.
UNMITTELBAREN KONTAKT MIT DEM STRAHL UNBEDIGT VERMEIDEN.

DANGER
Faire très attention aux radiations émises par le faisceau laser invisible au défaillance du verrouillage. NE JAMAIS S'EXPOSER DIRECTEMENT AU FAISCEAU.

VARNING
När apparaten öpponats och skyddsanordningen eller satts ur funktion förekommer osynlig laser strålning. UNDVIK DIREKT BESTRÅLNING.

ADVARSEL
Når apparatet åbnes og beskyttelsesanordningen ikke virker eller sættes un af funktion, forekommer der usynlig laserståling. UNDGÅ DIREKTE BESTRÅLING.

ADVERSEL
Når denne delen er åpen som følge av at låsen er utkoplet eller ikke fungerer, eksisterer det usynlig laserstråling. UNNGÅ Å BLI UTSATT FOR DIREKTE BESTRÅLING!

VAROITUS
Laite lähettää näkymätöntä lasersäteilya, kun se avataan ja kun sisäiset turvalukot eivät toimi. VARO JOUTUMASTA ALTTIIKSI SÄTEILYLLE.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

STEREO CASSETTE RECEIVER/COMPACT DISC PLAYER

May 1987 **TOYOKAWA WORKS**

SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers. Critical parts are marked with ⚠ in the circuit diagram and printed wiring board.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

PRÉCAUTIONS DE SÉCURITÉ

Les précautions suivantes doivent être observées chaque fois qu'une réparation doit être faite.

1. Etant donné que de nombreux composants de l'appareil possèdent des caractéristiques relatives à la sécurité, utiliser uniquement des pièces de rechange d'origine Hitachi pour effectuer un remplacement. Ceci se rapporte notamment aux pièces critiques du bloc d'alimentation qui ne doivent en aucun cas être remplacées par celles d'autres fabricants. Les pièces critiques sont accompagnées du symbole ⚠ dans le plan de circuit et sur le plan de base.
2. Avant de retourner l'appareil réparé au client, le technicien doit procéder à un essai complet pour s'assurer qu'il ne présente aucun danger de chocs électriques.

SPECIFICATIONS

● GENERAL

Power supply: AC: 120V, 60 Hz (for CS)
AC: 220V, 50 Hz (for ES,VS, KS, ZS)
AC: 240V, 50 Hz (for BK, SA)
AC: 110—120V/200—220V/230—240V, 50/60 Hz (for US, EW)

Power consumption: 150W

Dimensions: 590(W) x 81(H) x 311(D) mm

Weight: 6.0 kg

● AMPLIFIER SECTION

Power output (Both channels driven): 25 W/ch*, min, RMS, at 8 ohms from 70 Hz to 15 kHz, with less than 1.5%, total harmonic distortion.
*Measured pursuant to the Federal Trade commision's Trade Regulation Rule on Power output claims for Amplifiers.
30 W/ch + 30 W/ch (8 ohms, 1 kHz, T.H.D. 0.7% SINUS)
30 W/ch + 30 W/ch (8 ohms, 1 kHz, T.H.D. 0.7%)

Total harmonic distortion: 0.5% (at 1/2 power output)

Input sensitivity/Impedance: PHONO: 6mV/50 kohms
AUX: 400mV/40 kohms

Load impedance: Speaker: 8—16 ohms
Headphones: more than 8 ohms

S/N ratio (IHFA network): PHONO: 73 dB
AUX: 87 dB

● TUNER SECTION

Reception frequency: FM: 87.9—107.9 MHz (100 kHz steps) (for US, CS)
FM: 87.50—108.00 MHz (50 kHz steps) (except US, CS)
MW(AM): 530—1,620 kHz (9/10 kHz steps) (for US, EW)
MW(AM): 530—1,620 kHz (10 kHz steps) (for CS)
MW(AM): 522—1,611 kHz (9 kHz steps) (except US, CS, EW)
LW: 146—353 kHz (for ES, VS, BK)

Sensitivity: FM: 1.6 μV (75 ohms, S/N ratio 26 dB, 40 kHz Dev.)
MW(AM): 600 μV/m (S/N ratio 20 dB, 400 Hz, 30% mad.)

S/N ratio: FM: 70 dB (mono), 68 dB (stereo)
MW(AM): 42 dB
LW: 40 dB (for ES, VS, BK)

FM selectivity: 28 dB (± 400 kHz) (for US, CS)
28 dB (± 300 kHz) (except US, CS)

Stereo separation: 40 dB (1 kHz)

Antennas: FM: Lead antenna or external antenna (75 ohms, unbalanced)
MW (AM)/LW: Loop antenna or external antenna

● TAPE DECK SECTION

Track system: 4 tracks 2 channels stereo

Recording system: AC bias

Tape: Normal, Chrome (CrO_2)

Frequency response: Normal 40 to 13,000 Hz
CrO_2 40 to 14,000 Hz

● CD PLAYER SECTION

Player time: Approx. 60 minutes/one side

Diameter: 120 mm

Sampling frequency: 44.1 kHz

Quantization number: 16 bit linear/channel

Frequency response: 20 to 20,000 Hz

Specifications are subject to change without notice for performance improvement.

CARACTÉRISTIQUES TECHNIQUES

● CARACTÉRISTIQUES GÉNÉRALES

Alimentation: Secteur alternatif 120V, 60 Hz (pour CS)
Secteur alternatif 220V, 50 Hz (pour ES, VS, KS, ZS)
Secteur alternatif 240V, 50 Hz (pour BK, SA)
Secteur alternatif 110—120V/200—220V/230—240V, 50/60 Hz (pour US, EW)

Puissance consommée: 150W

Dimensions: 590(L) x 81(H) x 311(P) mm

Poids: 6.0 kg

● SECTION AMPLIFICATEUR

Puissance de sortie: 25w/canal* min, à 8 ohms de 70 Hz à 15 kHz avec une distorsion harmonique total à moins de 1,5%.
*Measuré conformément aux réglementations commerciales de la Commission fédérale du Commerce sur la sortie de puissance des amplificateurs.
30W/canal + 30W/canal (8 ohms, 1 kHz 0,7% D.H.T. SINUS)
30W/canal + 30 W/canal (8 ohms, 1kHz 0,7% D.H.T)

Distorsion harmonique totale: 0,5% (à la moitié de la puissance de sortie

Sensibilité/impédance d'entrée: PHONO: 6mV/50k ohms
AUX: 400 mV/40k ohms

Impédance de charge: Haut-parleur: De 8 à 16 ohms

Rapport S/B (réseau A IHF): PHONO: 73 dB
AUX: 87 dB

● SECTION TUNER

Fréquence de réception: FM: 87,9—107,9 MHz (par paliers de 100kHz) (pour US, CS)
FM: 87,50—108,00MHz (par paliers de 50kHz) (sauf US, CS)
MW(AM): 530—1620 kHz (par paliers de 9/10kHz) (pour US, EW)
MW(AM): 530—1620 kHz (par paliers de 10kHz) (pour CS)
MW(AM): 522—1611 kHz (par paliers de 9 kHz) (sauf US, CS, EW)

Sensibilité: FM: 1.6 μV (75 ohms, rapport S/B 26dB, écart 40 kHz)
MW(AM): 600 μV/m (rapport S/B 20 dB, écart 400Hz, 30% modul.)

Rapport S/B: FM: 70 dB (mono), 68 dB (stéréo)
MW(AM): 42 dB
LW: 40 dB (pour ES, VS, BK)

Sélectivité: 28 dB (± 400 kHz) (pour US, CS)
28 dB (± 300 kHz) (sauf US, CS)

Séparation stéréo: 40 dB (1 kHz)

Antennes: FM: Descente d'antenne ou antenne extérieure (750 ohms, asymétrique)
MW(AM)/LW: Antenne—cabre ou antenne extérieure

● SECTION PLATINE-CASSETTE

Système de postes: 4 pistes, 2 canaux stéréo

Système d'enregistrement: Polarisation c.a

Bande: Normale, Chrome

Réponse en fréquence: Normal: De 40 à 13,000 Hz
CrO_2: De 40 à 14,000 Hz

● SECTION LECTEUR DE DISQUE COMPACT

Durée de lecture: Environ 60 mn/face

Diamètre: 120 mm

Fréquence d'échantillonnage: 44,1 kHz

Nombre de numération: 16 bits/canal

Réponse en fréquence: De 20 à 20000 Hz

Les caractérestiques techniques peuvent être modifiées sans préavis pour améliorations des performances.

DISASSEMBLY

1. Top Case (Fig. 1, 2)

Remove ten screws ① and seven screws ②. (Fig. 1) Remove Power Switch Button and Volume Knob . Open CD lid and Cassette lid by pushing CD Door Opening Button and Cassette Door Opening Button. Then remove the Top Case by lifting it upward. (Fig. 2)

2. CD door (Fig. 2, 3)

Remove two screws ③ and washer. Then push A, B section in the direction of the arrows (Fig. 2) while removing stopper which is lifted up and off. At the same time the door opening spring and the CD open wire will come off.

3. Cassette door. (Fig. 2, 3)

Remove two screws ④ and two screws ⑤, damper and stopper pieces L and R. Then push C, D section in direction of arrow while lifting stopper piece off. At this time the door opening spring and the cassette open wire will also come off.

4. Clamper (Fig. 4) (In order not to break the clip Ⓐ of the CD door.)

(1) Raise the clamper upwards and, while pulling the bottom of the clamper toward yourself, push the clip Ⓐ in the direction of arrow ⓐ and release the clip Ⓐ in direction ⓑ. (while doing this be careful not to push the clip Ⓐ too hard or it will break)

(2) When the clamper has been passed through the Ⓑ clip section the clamper is pushed downward and taken off. (If the clamper returns when pushed lightly in direction Ⓒ this means that it did not pass Ⓑ clip section. In such a case repeat procedures (1) and (2).

(3) When inserting the clamper, just do the same processes (1) and (2) in reverse. When the clip Ⓐ is pushed lightly in the direction of arrow ⓐ, the clamper will go in.

5. Function Switch P.W.B. (Fig. 5)

Remove one screw ⑥, four connectors Ⓐ and three connectors ⓐ.(Connectors ⓐ are except B( )

6. **FL Meter P.W.B. (Fig. 5)**
Remove two screws ⑦ and eight connectors Ⓑ.

7. **Cassette Chassis (Fig. 6)**
Remove eight screws ⑧ and four connectors.

8. **CD Function Switch P.W.B. (Fig. 7)**
Remove one screw ⑨ then, after removing the CD Operating Button, remove three screws ⑩.

9. **Power Switch P.W.B. (Fig. 8)**
Remove one screw ⑪.

10. **Laser/Open Switch P.W.B. (Fig. 8)**
Remove two screws ⑫, one screw ⑬ and two connectors Ⓒ.

11. **CD Unit Mechanism (Fig. 8)**
Remove three screws ⑭, two connectors Ⓓ and the flexible P.W.B..

12. **PX P.W.B. (Fig. 8, 9, 10)**
After removing the Laser/Open Switch P.W.B., the P.W.B. Holder and the CD Unit Mechanism (Fig. 8), remove two screws ⑮ , two connectors Ⓔ and pull off in the direction of the arrows.

13. **Main P.W.B. (Fig. 10)**
Remove twelve screws ⑯ and five screws ⑰.

DÉMONTAGE

1. **Boîtier supérieur (Fig. 1, 2)**
Enlever dix vis ① et sept vis ②. (Fig. 1) Enlever l'interrupteur d'alimentation et le bouton de volume. Ouvrir la porte CD et la porte de cassette en appuyant sur le touche d'ouverture de porte CD et la touche d'ouverture de la porte de cassette. Puis, enlever le boîtier supérieur en le soulevant vers le haut. (Fig. 2)

2. **Porte CD (Fig. 2, 3)**
Enlever deux vis ③ et la rondelle. Puis, appuyer sur les parties A, B dans la direction des flèches (Fig. 2) tout en enlevant l'élément d'arrêt que s'enlève en le tirant vers le haut. Alors, le ressort d'ouverture de porte CD et le fil métallique d'ouverture de port CD pourront également s'enlever.

3. **Porte de cassette (Fig. 2, 3)**
Enlever deux vis ④ et deux vis ⑤, ainsi que les éléments d'amortissement et d'arrêt L et R. Puis, appuyer sur les parties C, D dans la direction de la flèche tout en enlevant l'élément d'arrêt en le tirant vers le haut. Alors, le ressort d'ouverture de porte de cassette et le fil métallique d'ouverture de porte de cassette pourront également s'enlever.

4. **Bride de fixation (Fig. 4) (Pour ne pas casser la pince Ⓐ de la porte CD.)**

(1) Tirer la bride vers le haut et, tout en tirant le bas de la bride vers vous, appuyer sur la pince Ⓐ dans la direction de la flèche ⓐ et dégager la pince Ⓐ dans la direction ⓑ. (Veiller à ne pas appuyer trop fort sur la pince Ⓐ pour ne pas la casser.)

(2) Une fois que la bride a été passée au travers de la section pince Ⓑ, la bride est poussée vers le bas et se dégage. (Si la bride revient lorsque l'on appuie dessus légèrement dans la direction Ⓒ, cela signifie qu'elle n'est pas passée au travers de la section pince Ⓑ. Si tel est le cas, recommencer les procédures (1) et (2).

(3) Pour insérer la bride, recommencer les procédures (1) et (2) à l'envers. Lorsque l'on appuye légèrement sur la pince Ⓐ dans la direction de la flèche ⓐ, la bride peut être insérée.

5. **Plaquette des commutateurs de fonction (Fig. 5)**
Enlever une vis ⑥, quatre connecteurs Ⓐ et trois connecteurs ⓐ. (Connecteurs ⓐ sont sauf BK.)

6. **Plaquette du compteur FL (Fig. 5)**
Enlever deux vis ⑦ et huit connecteurs Ⓑ.

7. **Châssis de cassette (Fig. 6)**
Enlever huit vis ⑧ et quatre connecteurs

8. **Plaquette de commutateurs de fonction CD (Fig. 7)**
Enlever une vis ⑨ puis, après avoir enlevè les touches de fonctionnement CD, enlever trois vis ⑩.

9. **Plaquette de l'interrupteur d'alimentation (Fig. 8)**
Enlever une vis ⑪.

10. **Plaquette du commutateur laser/ouvrir (Fig. 8)**
Enlever deux vis ⑫, une vis ⑬ et deux connecteurs Ⓒ.

11. **Mécanisme d'unité CD (Fig. 8)**
Enlever trois vis ⑭, deux connecteurs Ⓓ et la plaquette flexible.

12. **Plaquette PX (Fig. 8, 9,10)**
Après avoir enlevé la plaquette laser/ouvrir, le support de plaque de base et le mécanisme d'unité CD (Fig. 8), enlever deux vix ⑮, deux connecteurs Ⓔ et tirer dans la direction des flèches.

13. **Plaquette principale (Fig. 10)**
Enlever douze vis ⑯ et cinq vis ⑰.

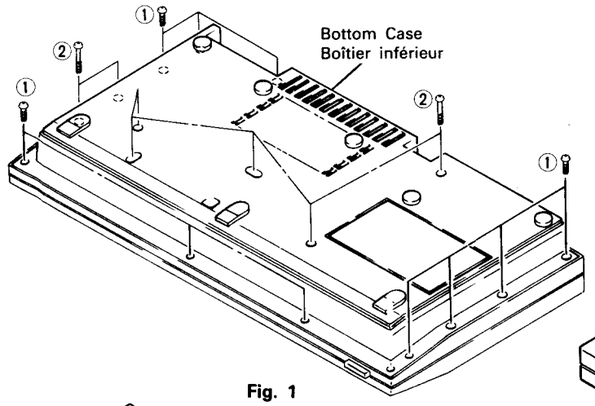


Fig. 1

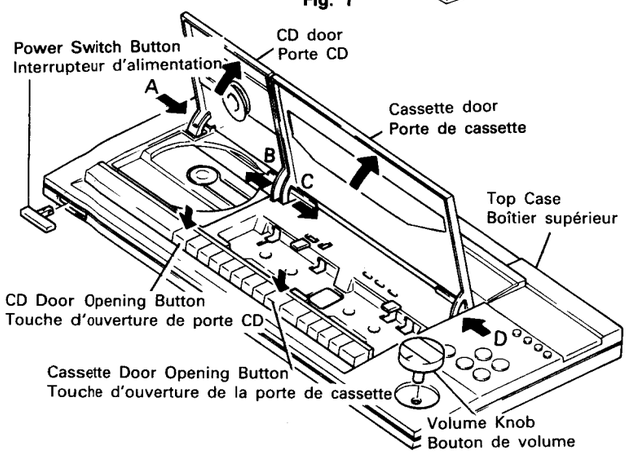


Fig. 2

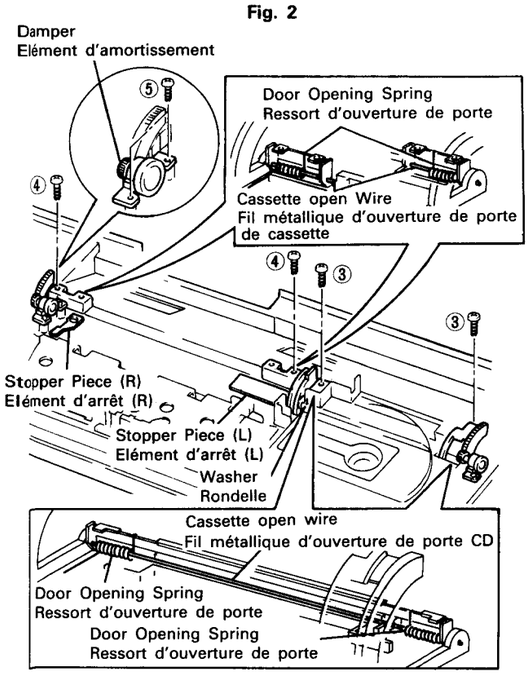


Fig. 3
(Back side of Top case)
(Arrière du boîtier supérieur)

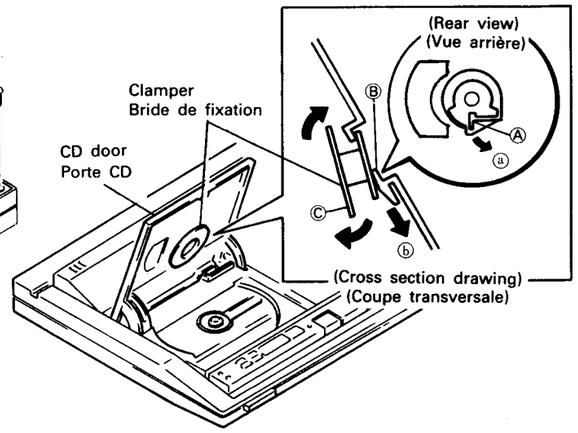


Fig. 4

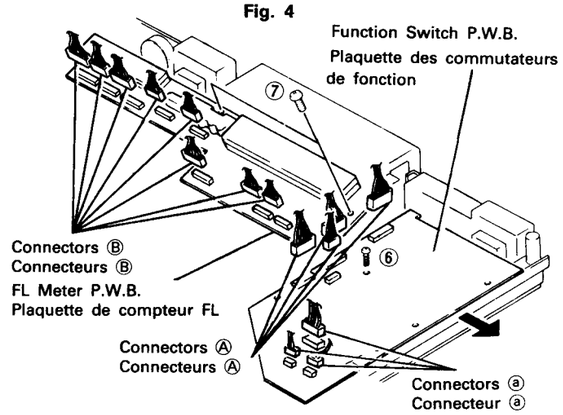


Fig. 5

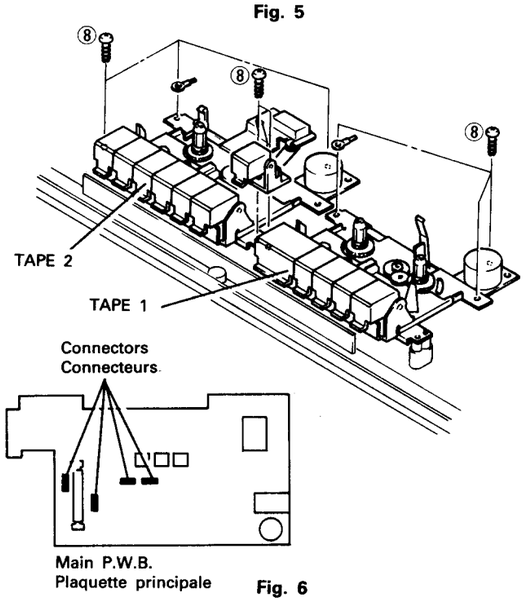


Fig. 6

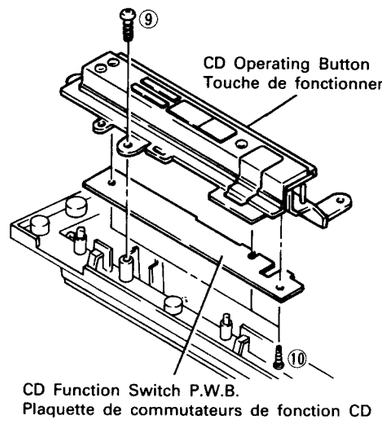


Fig. 7

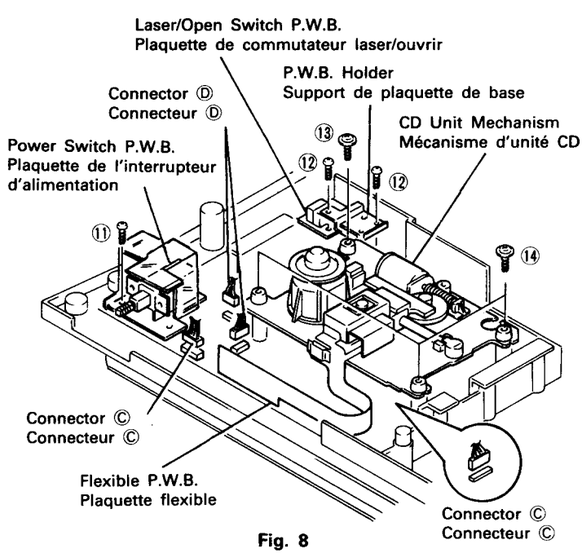


Fig. 8

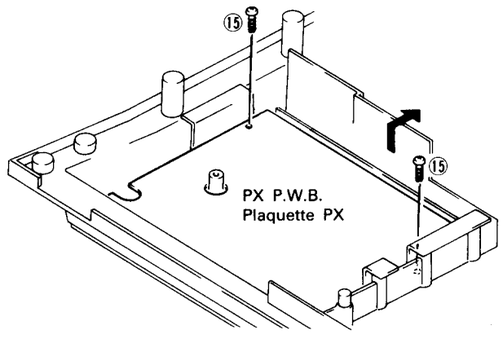


Fig. 9

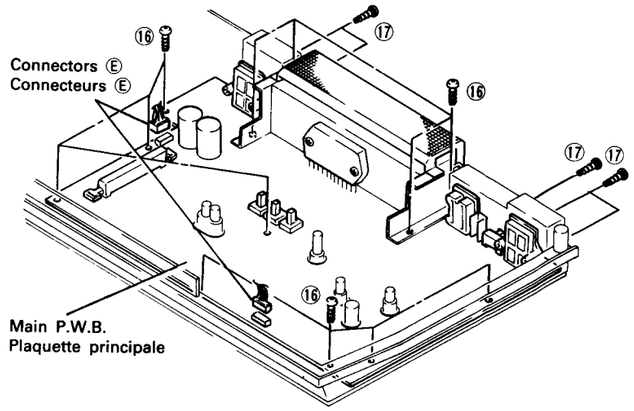


Fig. 10

14. Checking the Object Lens. (Fig. 11)

Make sure that no dust or grime gets on the object lens of the lens actuator. After a long period of use it is possible for this lens to get dirty or dusty. In such a case try to clean the front surface of the lens with a cotton applicator.

15. Laser Malfunction Check

The laser normally operates on a current of 40 — 80mA. If the laser circuit is measured and shows a current of 100 mA or more it may be assumed that the laser is defective.

16. Things to Keep In Mind During Servicing (Fig. 12)

(1) Regarding the Semiconductor Laser

The semiconductor laser is extremely sensitive to electrostatic disruption and surge current. Be very careful not to allow the hand or any tools ever to come into contact with the terminals of either the laser or the flexible P.W.B..
Furthermore, the Current-Light Intensity Characteristic once a certain amperage threshold is exceeded, rises sharply (as can be seen in Fig. 12). This current threshold is slightly different for each laser unit. Consequently, during operations such as the replacement of the Unit Mechanism Assembly, when setting the intensity of the laser be sure to turn the Semi-variable Resistor R905 as far to the right as it will go to set it off once, and then raise the current to the level which is specified.

(2) Handling of the Unit Mechanism Assembly (Fig. 13)

When handling the Pickup Mechanism Assembly and the Unit Mechanism Assembly use a Ground Ring of the kind pictured in Fig. 13.
(A ground wire can be made with ordinary lead wire.)

(3) Precautions During Replacement of Parts.

1) Protective sheets (against static electricity) are stuck to the service parts of the Unit Mechanism. Never remove these sheets under any circumstances until assembly is completed.
2) If high temperature is applied to the motor lead wire terminal, for example by soldering, this may cause damage to the motor.
3) Make sure that screws are set in tightly. If screws are loose, this may lead to defective disc tracking performance.
4) When installing the DC Motor Assembly, (Slide Motor) be careful not to damage the worm gear. Such damage will become a source of noise. After installation, check the play between the worm gear and the transmission gear. If there is no play move the DC Motor Assembly outward.
5) The DC Motor (D2) and the Turntable are replaced in the following manner:
   (1) Lift the turntable off perpendicularly to the Unit Plate.
   (2) When attaching the turntable, adjust the height using the Height Adjustment Jig (Fig. 15). At this time avoid placing undue lateral stress on the shaft of the DC Motor (D2).
   (3) During the overhauling of the DC Motor (D2), do not apply excessive force in the direction B. If the C portion of the Unit Plate is deformed this could cause eye-pattern deterioration. (Fig. 16)

   NOTE: Once the Turntable has been Removed, Do Not Use It Again.
6) Lead Bar Check
   If the lead bar is loose interference with the disc tracking function may result. Therefore check to make sure that the lead bar does not move in the direction indicated by D. If it is found to move, correct position of the Bar Plate (B) by bending in direction E with pliers, then reassemble. (Fig. 17)
7) Since the Flexible P.W.B. can be cut easily make sure not to use excessive force when servicing the Unit Mechanism Assembly (replacing parts). Ground the flexible P.W.B. after it is removed by clamping it with a metal clamp or similar metal object. (Fig. 18)

17. Safety Devices (Fig. 19)

This equipment has a safety device built in to the disc cover which automatically cuts off laser light as soon as the cover is opened. Be careful not to stick pins or other foreign objects into this area. If laser light comes out accidentally, this is very dangerous.

14. Vérification de la lentille optique (Fig. 11)

S'assurer qu'il n'y a pas de poussière ou de saletés sur l'actionneur de lentille de la lentille optique. Après une longue durée d'utilisation, il est possible que la lentille soit sale. Si tel est le cas, nettoyer la surface de la lentille à l'aide d'un coton-tige.

15. Vérification du fonctionnement du laser

Le laser fonctionne normalement sur un courant de 40 — 80 mA. Si le circuit laser est mesuré et indique un courant de 100 mA ou plus, on peut en déduire que le laser ne fonctionne pas correctement.

16. Points importants lors de l'entretien (Fig. 12)

(1) En ce que concerne le laser à semiconducteur

Le laser à semiconducteur est très sensible aux perturbations électrostatiques et au courant de choc. Bien veiller à ce que ni vos mains ni aucun outil ne viennent en contact avec les bornes du laser ou de la plaquette flexible.
De plus, les caractéristiques d'intensité courant-lumière augmentent considérablement, une fois un certain seuil d'ampérage atteint (comme indiqué sur la Fig. 12). Ce seuil de courant varie légèrement selon l'unité laser. En conséquence, lors d'opérations telles que le remplacement de l'ensemble du mécanisme d'unité, au moment du réglage de l'intensité du laser, bien veiller à tourner la résistance semivariable R905 à fond à droite, puis augmenter le courant au niveau spécifié.

(2) Maniement de l'ensemble du mécanisme de l'unité (Fig. 13)

Lors du maniement de l'ensemble du mécanisme de la tête de lecture et de l'ensemble du mécanisme de l'unité, utiliser une bague de mise à la terre du type de celui illustré sur la Fig. 13.
(Un fil de masse peut être fait avec du fil conducteur ordinaire.)

(3) Précautions lors du remplacement de pièces

1) Des films protecteurs sont collés aux pièces d'entretien du mécanisme de l'unité. Ne jamais enlever ces films jusqu'à ce que l'assemblage soit terminé.
2) Si une température élevée est appliquée sur la borne du fil conducteur de moteur - par exemple, par soudage - cela peut provoquer des dommages au moteur.
3) Veiller à ce que les vis soit bien serrées. Si les vis ne sont pas bien serrées, cela peut provoquer des erreurs de lecture de piste du disque.
4) Lors de la pose de l'ensemble moteur CC, veiller à ne pas endommager la vis sans fin, car cela pourrait être source de bruit. Après la pose, vérifier le jeu entre la vis sans fin et l'engrenage de transmission. S'il n'y a pas de jeu, déplacer l'ensemble moteur CC vers l'extérieur.
5) Le moteur CC (D2) et le plateau d'entraînement sont remplacés de la manière suivante:
   (1) Dégager le plateau d'entraînement de la plaquette de l'unité en le soulevant perpendiculairement.
   (2) Lors de a pose du plateau d'entraînement, régler la hauteur à l'aide du gabarit de réglage de hauteur (Fig. 15). Eviter d'appliquer un effort latéral excessif sur l'axe du moteur CC (D2).
   (3) Lors du changement du moteur CC (D2), ne pas appliquer de force excessive dans la direction B. Si la partie C de la plaquette de l'unité est déformée, cela peut provoquer une détérioration de l'oculaire I (Fig. 16).

   Note: ne pas réutiliser un plateau d'entraînement qui a été enlevé une fois.
6) Vérification de la barre d'avance
   Si la barre d'avance est lâche, cela peut affecter la lecture de piste du disque. Il faut donc vérifier que la barre ne se déplace pas dans la direction indiquée par D. Si tel est le cas, corriger la position de la plaquette de barre (B) en la courbant à l'aide de pinces dans la direction E, puis procéder au remontage (Fig. 17)
7) Etant donné que la plaquette flexible être facilement cassée, veiller à ne pas appliquer de force excessive lors de la réparation de l'ensemble du mécanisme de l'unité. Relier à la terre la plaquette flexible - après avoir enlevée - à l'aide d'une pince métallique ou d'un objet métallique similaire (Fig. 18).

17. Dispositifs de sécurité (Fig. 19)

Cet appareil est équipé d'un dispositif de sécurité qui coupe automatiquement le rayon laser dès l'ouverture de la porte du disque. Veiller à ne pas insérer d'objets métalliques pointus ou autres objets à cet entroit. Il y a risque de danger en cas de sortie accidentelle du rayon laser.

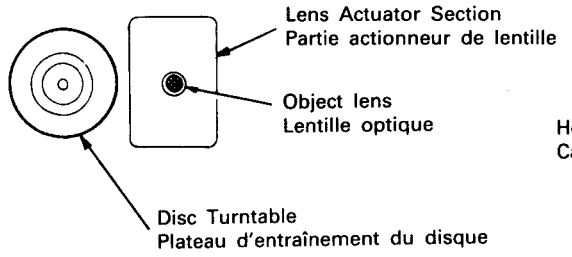


Fig. 11

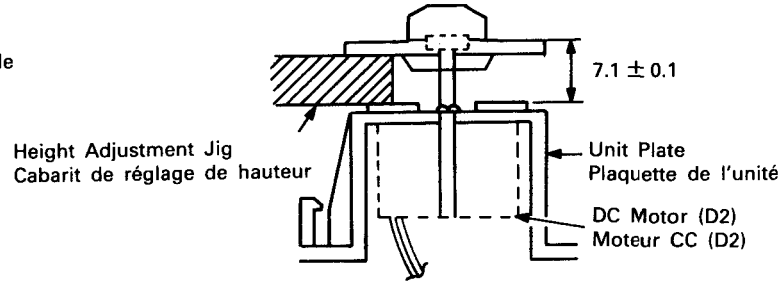


Fig. 15

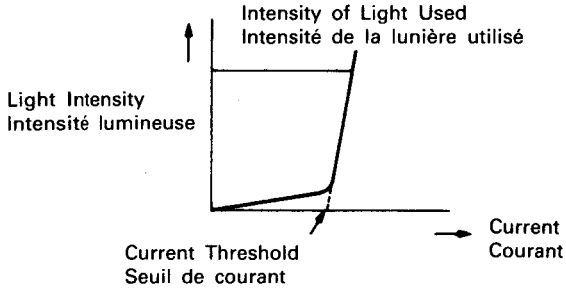


Fig. 12

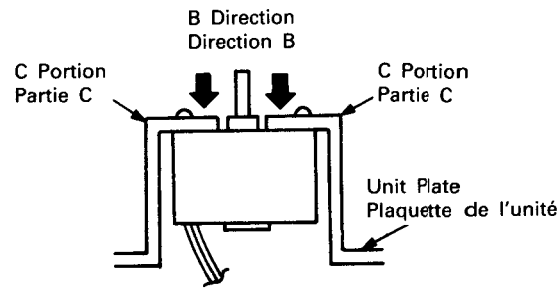


Fig. 16

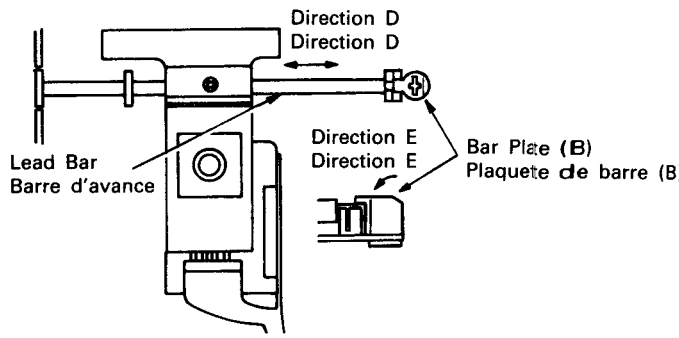


Fig. 17

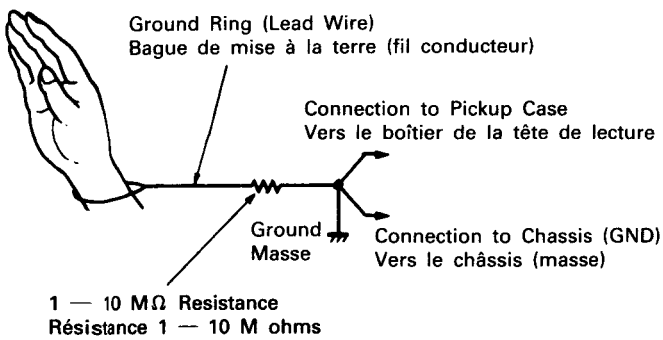


Fig.13

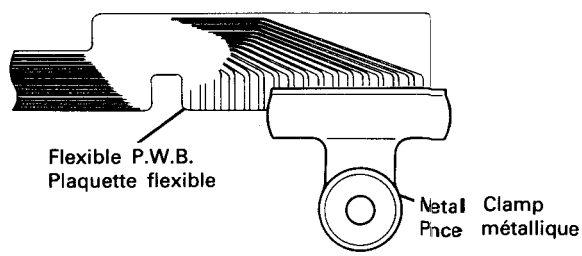


Fig. 18

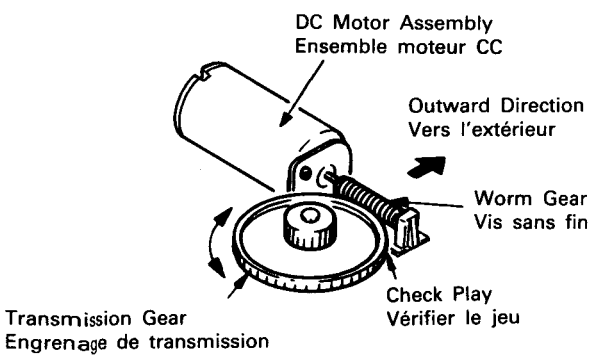


Fig. 14

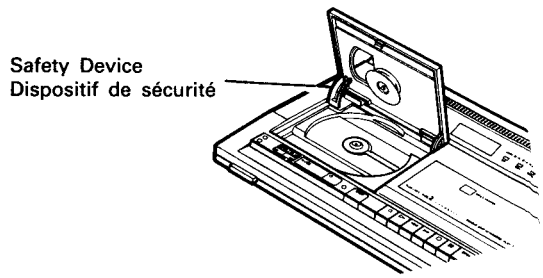


Fig. 19

GENERAL ADJUSTMENT INSTRUCTIONS

● RADIO SECTION

These adjustments are made after the Top Case and the Function Switch P.W.B. have been removed.

● Adjustment points Perform adjustment at least 3 minutes after the power has been switched on.

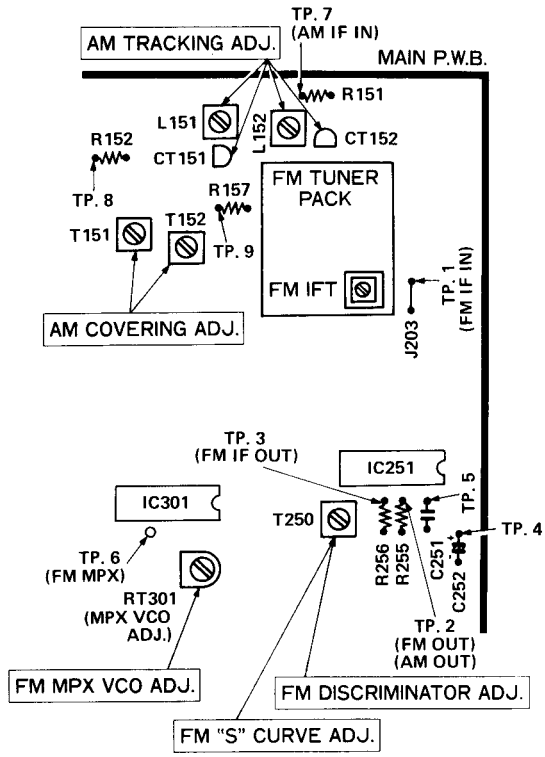


Fig. 20

FM TUNER ADJUSTMENT

FUNCTION: FM **FM MODE: MONO**

Sweep Generator | Signal Generator | Oscilloscope | DC Null Meter

VTVM | Frequency Counter | Distortion Meter

	Sequence	Connection		Setting		Adjust for	
		Input	Output	Tuning	Signal	Adjust	Indication
1	IF Amp.	TP. 1 100k 0.1 μ	TP. 3 100k 0.1 μ	—	10.7 MHz	FM IFT	(Note 1)
2	"S" curve		TP. 2 100k 0.1 μ	—	10.7 MHz	T250	(Note 2)
3	Discriminator	FM antenna 60dB 400H, 22.5kHz Dev.	SPEAKERS terminal	98 MHz	98 MHz	T250	(Note 3)
4	MPX VCO	Antenna terminal (75 ohms) 60 dB Non Mod.	TP. 6 100k	—	—	RT301	19 kHz ± 100 Hz

Note 1: Apply low-input signals from a sweep generator (with a small amount of noise superimposed on IF waveform as in Fig. 21), and adjust the waveform until it becomes maximum and symmetrical.
Note 2: Cause and S curve to appear on the screen by FM IFT as shown in Fig. 22, and adjust it until points A and B are positioned symmetrically, and the A-B line becomes liner.
Note 3: Connect a DC null meter TP. 4 and TP. 5 then make adjustment until it reads 0 ± 30mV.

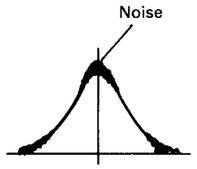


Fig. 21

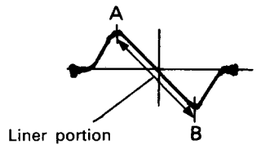


Fig. 22

AM TUNER ADJUSTMENT

FUNCTION: AM
MODULATION: 400Hz 30% Mod. 74dB μ /m

Sequence		Connection		Setting		Adjust for	
		Input	Output	Tuning	Signal	Adjust	Indication
1	IF AMP.	TP. 7 100k 0.1 μ	TP. 2 100k 0.1 μ	—	450kHz	—	(Note 4)
2	Covering	Loop antenna	TP. 8 (MW) TP. 9 (LW)	(MW) 530kHz (for US, CS) 522kHz (except US, CS)	—	(MW) T151	1.3V ± 0.1V (for US, CS) 1.2V ± 0.1V (except US, CS) (Note 5)
				(LW) 146kHz	—	(LW) T152	1.2V ± 0.1V (Note 5)
3	Tracking	400Hz 30% Mod.	Audio output	(MW) 603kHz or 600kHz	(MW) 603kHz or 600kHz	L151	V max. (Note 5)
				(LW) 164kHz	(LW) 164kHz	L152	
				(MW) 1404kHz or 1400kHz	(MW) 1404kHz or 1400kHz	CT151	
				(LW) 335kHz	(LW) 335kHz	CT152	

Note 4: Check the waveform shown in Fig. 23 is obtained.
Note 5: At first, set the input level to 74 dB μ /m. As the adjustment advances, reduce the input level to and allowable minimum level (approx. 60 dB), and repeat the adjustment until the maximum output is obtained at the specified frequency.

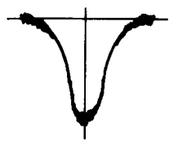


Fig. 23

INSTRUCTIONS GÉNÉRALES DE RÉGLAGE

●SECTION RADIO
Ces réglages s'effectuent après que le boîtier supérieur et la plaquette de commutateurs de fonction ont été enlevés.

● Emplacement de réglage Commencer le réglage au moins trois minutes après mise sous tension.

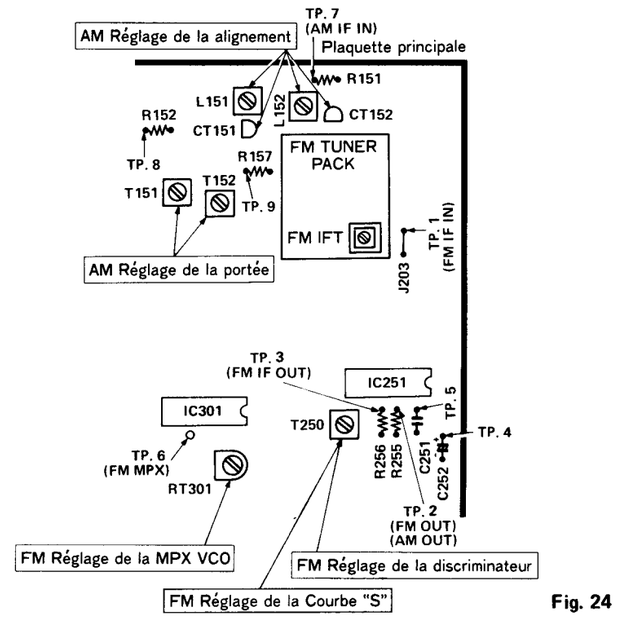


Fig. 24

REGLAGE DE TUNER FM

FONCTION: FM **FM MODE: NOMO**

Générateur de balayage | Générateur de signaux | Oscilloscope | Indicateur zero C.C.
Voltmètre électronique | Fréquencemètre | Distorsionmètre

Order		Connexion		Montage		Réglage pour	
		Entree	Sortie	Indicateur d'accord	Signal	Réglage	Indication
1	Amplificateur de fréquence intermédiaire	TP. 1 100k 0,1 μ	TP. 3 100k 0.1 μ	—	10,7 MHz	FM IFT	(Remarque 1)
2	Courbe "S"		TP. 2 100k 0.1 μ	—	10,7 MHz	T250	(Remarque 2)
3	Discriminateur	Antenne FM 60dB 400H, 22,5kHz Dev.	Borne haut-parleurs	98 MHz	98 MHz	T250	(Remarque 3)
4	MPX VCO	Borne antenne (75 ohms) 60 dB non mod.	TP. 6 100k	—	—	RT301	19 kHz ± 100 Hz

Remarque 1: Appliquer des signaux à faible entrée provenant d'un générateur de balayage (avec une petite quantité de bruit surimposésur une forme d'onde IF, comme indiqué sur la Fig. 25) et régler la forme d'onde jusqu'à ce qu'elle soit maximale et symétrique.

Remarque 2: Provoquer l'apparition d'une courbe S sur l'écran par FM IFT, comme indiqué sur la Fig. 26, et la régler jusqu'à ce que les points A et B soient positionnés symétriquement et que la ligne A-B soit linéaire.

Remarque 3: Appliquer un compteur de zéro CC sur TP. 4 et TP. 5, puis régler jusqu'à ce qu'il lise 0 ± 30 mV

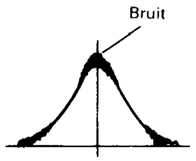


Fig. 25

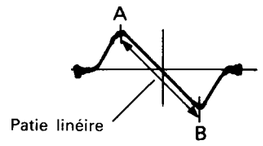


Fig. 26

REGLAGE DE TUNER AM

FONCTION: AM

MODULATION: 400Hz 30% Mod. 74dB μ /m

Order		Connexion		Montage		Réglage pour	
		Entrée	Sortie	Indicateur d'accord	Signal	Réglage	Indication
1	Amplificateur de fréquence Intermédiaire	TP. 7 100k 0,1 μ	TP. 2 100k 0,1 μ	—	450kHz	—	(Remarque 4)
2	Portée	Antenne en cardon	TP,8 (MW) TP,9 (LW)	(MW) 530kHz (pour US, CS) 522kHz (sauf US, CS)	—	(MW) T151	1,3V ± 0,1V (pour US, CS) 1,2V ± 0,1 V (sauf US, SC) (Remarque 5)
				(LW) 146kHz	—	(LW) T152	1,2V ± 0,1V (Remarque 5)
3	Alignement	400Hz 30% Mod.	Sortie audio	(MW) 603kHz or 600kHz	(MW) 603kHz or 600kHz	L151	V max. (Remarque 5)
				(LW) 164kHz	(LW) 164kHz	L152	
				(MW) 1404kHz or 1400kHz	(MW) 1404kHz or 1400kHz	CT151	
				(LW) 335kHz	(LW) 335kHz	CT152	

Remarque 4: Vérifier que la forme d'onde indiquée sur la Fig. 27 soit obtenue.

Remarque 5: D'abord, régler le niveau d'entrée sur 74 dB μ /m. Au fur et à mesure du réglage, réduire le niveau d'entrée jusqu'au niveau minimum permissible (environ 60 dB) et répéter le réglage jusqu'à ce que la sortie maximale soit obtenue à la fréquence spécifiée.

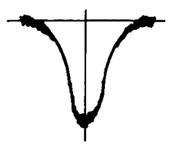


Fig. 27

TAPE DECK SECTION

● Adjustment poiots

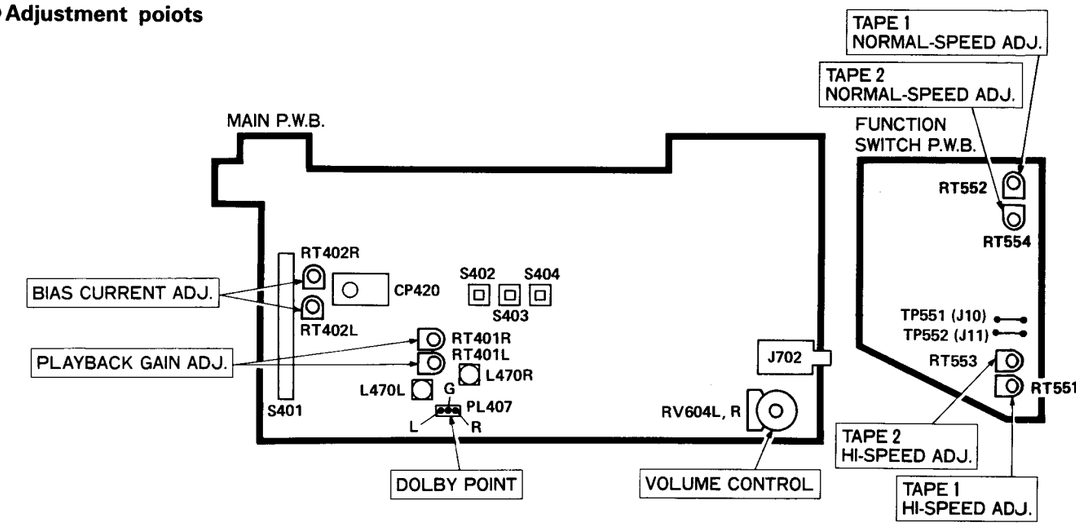


Fig. 28

● Instruments to be used

1. Audio oscillator
2. Electronic voltmeter
3. Attenuator
4. Frequency counter

● Jigs, Test and Check Tapes

1. Head mounting jig
2. 400 Hz, Dolby alignment tape
3. 10 kHz, azimuth alignment tape
4. 3,000 Hz, tape speed alignment tape
5. Mirror tape (for tape running check)
6. NORMAL tape (MAXELL UD I 90)
   CHROME tape (MAXELL UD II 90)

● Positions of Knobs

Match the positions of switches and knobs to those shown in the table following unless otherwise specified.

REC level control (RV605LR)	MAX
Tape select switch (S402)	(Note 1)
RIF switch (S403)	A
Dolby NR switch (S404)	OFF

Note 1: Set tape select switch as shown below according to the tape being used.

Tape used	Tape select switches
No tape used	NORMAL
Test tape	NORMAL
NORMAL tape	NORMAL
CHROME tape	CrO_2

Open the cassette lid and then clean the heads, pressure rollers and capstans using alcohol, then perform adjustment according to the following procedure.

1. Tape Speed Adjustment

*Be sure to make adjustment in order of Normal-speed to High-speed. (For BK, Normal-speed only)

1) Normal-speed

Tape	Adjustment value	Adjustment point
Tape speed Alignment tape	3,000Hz ±1.0%	• except BK RT552 (TAPE 1) RT554 (TAPE 2) • for BK Semi-variable resistor inside motor

Adjustment procedure

Connect the frequency counter to the SPEAKERS terminals apply heat-run for 20 minutes or more. Then, playback alignment tape for TAPE 1 and TAPE 2, and adjust the tape speed to the middle of the tape so that the speed of TAPE 1 and TAPE 2 are equal.

2) High-speed (except BK)

Tape	Adjustment value	Adjustment point
Tape speed Alignment tape	6,000 Hz ±1.0%	RT551 (TAPE 1) RT553 (TAPE 2)

Adjustment procedure

With the shorting across TP551 and TP552, and playback alignment tape for TAPE 1 and TAPE 2 and adjust their speed.

2. Azimuth Adjustment of Recording/Playback Head

Tape	Adjustment value	Adjustment point
Azimuth alignment tape	Maximum output	Azimuth adjustment screw

Adjustment procedure

Adjustment is made by connecting an electronic voltmeter to the SPEAKERS terminals and playback the azimuth alignment tape. If there is a difference in the highest volume of the two channels, adjustment should be made to the left channel.

At this time check to see if the difference between channels is less than 2 dB. If it is greater, readjust again. After adjustment has been made apply screw lock.

3. Playback Gain Adjustment

Tape	Adjustment value	Adjustment point
Dolby alignment tape	580 mV	RT401LR

Adjustment procedure

Connect the electronic voltmeter to the PL407, playback the Dolby alignment tape. Adjust so that the reading of the electronic voltmeter indicates adjustment value.
(The difference in levels between TAPE1 and TAPE2 should be no greater than 2 dB.)

4. Bias current Adjustment and Checking the Output Level of Recording and Playback

Set RT402L, R in the center position and record at the recording level shown in the table below to adjust for each tape, then check the playback level.

Order	Tape	Tape select switches	Recording level			Playback level		Adjustment procedure
			Frequency (Hz)	Level	Adjustment point	Level	Adjustment point	
1	NORMAL tape	NORMAL	400/10K	580 mV −25 dB	ATT	Within ± 1.5 dB	RT402LR	(1)
2	NORMAL tape	NORMAL	400	580 mV −10 dB	ATT	Within ± 2 dB	Cieck	(2)
3	NORMAL tape	NORMAL	400/10K	580 mV −25 dB	ATT	Within ± 1.5 dB	Check	(1)
4	CHROME tape	CrO_2	400/10K	580 mV −25 dB	ATT	Within ±3 dB	Check	(1)

Adjustment procedure

(1) Adjustment of Bias current

1) Connect an electronic voltmeter to the PL407 and, to the AUX IN terminals attach a audio oscillator by means of an attenuator. Set on "recording" and with the voltmeter set at 580 mV check the output of the audio oscillator. Next, check the attenuator and set to 580 mV − 25 dB. (Frequency: 400 Hz)
2) After recording at this setting next, set the audio oscillator to 10 kHz and record again.
3) Put the recording unit on "playback", take a reading of the output and check to ascertain if the difference in output between the two frequencies is within the range of ± 1.5 dB.
4) If the difference in output is not within the ± 1.5 dB range, make the appropriate adjustment of the RT402LR and then, once again as before, repeat the recording /playback test making sure the output is in the ± 1.5 dB range.

Note) When using CHROME tape during checking, if the range gets outside of the specified ± 3 dB, readjust using NORMAL tape.

(2) Checking the Output Level of Recording and Playback

1) Connect an electronic voltmeter to the PL407 and a audio oscillator to the AUX IN terminals. Inputting a signal of 400 Hz set on recording mode and record, adjusting the output of the audio oscillator so that the voltmeter indicates 580 mV−10 dB.
2) Set on "playback" and check to see if the output is −10 dB ± 2 dB.

5. Cassette Chassis Checking and Adjustment

No.	Inspection Item	Reference Value	Remarks
1	Pressure roller compression strength	300 — 500 g	(Note 1) Tension gage
2	Playback torque	30 — 60 g·cm	Cassettepack system Torque meter
3	FF/REW torque	more than 55 g·cm	Cassettepack system Torque meter
4	Supply back-tension	2.0 — 6.0 g·cm	Cassettepack system Torque meter
5	Axial play of flywheel	0.05 — 0.5 mm	

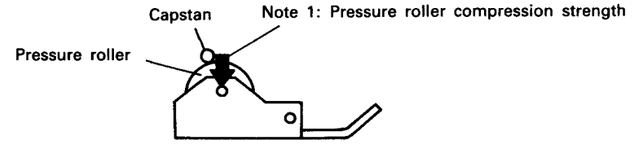


Fig. 29

SECTION PLATINE-CASSETTE

● **Emplacements de réglage**

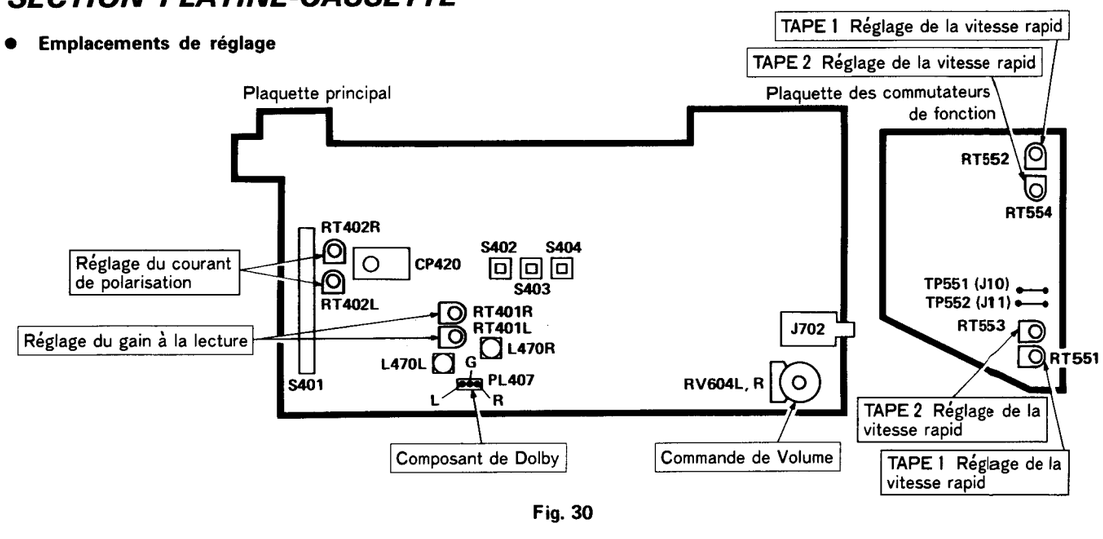


Fig. 30

● **Instrument à utiliser**

1. Oscillateur audio
2. Voltmètre électronique
3. Atténuateur
4. Fréquencemètre

● **Calibres, et bandes d'essai et de vérification**

1. Calibre de montage de tête
2. Bande d'étalonnage Dolby, 400 Hz
3. Bande d'étalonnage d'azimuth, 10 kHz
4. Bande d'étalonnage de la vitesse de la bande, 3000 Hz
5. Bande de la miroir (pour contrôle de défilement de la bande)
6. Bande Normal (MAXELL UD I 90)
   Bande Chrome (MAXELL UD II 90)

● **Positions des boutons**

A moins d'indication contraire, réglar les commutateurs et boutons sur les positions indiquées ci-après.

Commande de niveau d'enregistrement (RV605LR)	MAX
Sélecteur de bande (S402)	(Remarque 1)
Commutateur RIF (S403)	A
Commutateur Dolby NR (S404)	OFF

Remarque 1: Réglar le sélecteur de la bande comme indiqué ci-après, selon le type de la bande utillisé.

Bande	Sélecteur de bande
Bande non utilisee	NORMAL
Bande d'essai	NORMAL
Bande Normal	NORMAL
Bande Chrome	CrO_2

Ouvrir le couvercle du logement de la cassette. Puis nettoyer les têtes, le galet presseur et le cabestan avec de l'alcool. Procéder ensuite au réglage suivant.

1. Réglage de la vitesse de défilement de la bande

*Effectuer les réglages dans l'ordre vitesse normale et vitesse rapide. (Pour BK, seule vitesse normale)

1) Vitesse normale

Bande	Valeur d'étalonnage	Composant de réglage
Bande d'étalonnage de la vitesse de la bande	3000 Hz ± 1,0%	• sauf BK RT552 (TAPE 1) RT554 (TAPE 2) • pour BK Volume semi-fixe a l'intérieur du moteur

Méthode de réglage
Raccorder le fréquencemètre aux bornes de SPEAKERS (haut-parleur) et assure un préchauffage de la platine pendant au moins 20 minutes.
Einsuite reproduire la bande d'étalonnage TAPE 1 et TAPE 2 puis caler la vitesse de la bande en milieu de la bande pour que la vitesse soit indentique dans TAPE 1 et TAPE 2.

2) Vitesse rapide (sauf BK)

Bande	Valeur d'étalonnage	Composant de réglage
Bande d'étalonnage de la vitesse de la bande	6000 Hz ±1,0%	RT551 (TAPE 1) RT553 (TAPE 2)

Méthode de réglage
Après avoir la jonction entre TP551 et TP552, reproduire la bande de d'étalonnage TAPE 1 et TAPE 2 et caler leur vitesse de défilement.

2. Réglage d'azimut de la tête d'enregistrement/reproduction

Bande	Valeur d'étalonnage	Composant de réglage
Bande d'étalonnage d'azimut	Sortie maximale	Vis de réglage d'azimut

Méthode de réglage
Le réglage s'effectue en reliant un voltmètre électronique aux bornes de SPEAKERS (haut-parleur) et en lisant la bande d'étalonnage d'azimut. S'il y a une différence au volume le plus élevé des deux canaux, le réglage doit être fait sur le canal gauche. Vérifier alors que la différence entre les canaux est inférieure à 2 dB. Si elle est supérieure, régler de nouveau. Après la fin du réglage, appliquer le verrouillage de vis.

3. Réglage du gain à la reproduction

Bande	Valeur d'étalonnage	Composant de réglage
Bande d'étalonnage de Dolby	580 mV	RT401L, R

Brancher le voltmètre électronique sur le PL407, lire la bande d'étalonnage de Dolby. Régler de façon à ce que la lecture du voltmètre électronique indique la valeur de réglage. (La différence de niveau entre la TAPE1 et la TAPE2 doit être dans une plage de 2 dB.)

4. Réglage du courant de polarisation et Vérification du niveau de sortie d'enregistrement et de reproduction
Régler RT402L, R à leur position central, et enregistrer au niveau d'enregistrement indiqué sur le tableau ci-dessous de manière à régler chaque. Puis vérifier le niveau de lecture.

Ordre des réglages	Band	Sélecteurs de bande	Niveau d'enregistrement			Niveau de lecture		Réglage proprement
			Fréquence (Hz)	Niveau	Composant de réglage	Niveau	Composant de réglage	
1	Bande normale	NORMAL	400/10K	580 mV −25 dB	ATT	En moins de ± 1,5 dB	RT402LR	(1)
2	Bande normale	NORMAL	400	580 mV −10 dB	ATT	En moins de ± 2 dB	Vérification	(2)
3	Bande normale	NORMAL	400/10K	580 dB −25 dB	ATT	En moins de ± 1,5 dB	Vérification	(1)
4	Bande chrome	CrO_2	400/10K	580 dB −25 dB	ATT	En moins de ±3 dB	Vérification	(1)

Méthode de réglage

(1) Réglage du courant de polarisation
1) Brancher un voltmètre électronique sur PL407 et un oscillateur audio aux bornes AUX IN à l'aide d'un atténuateur. Passer en mode "enregistrement" et, avec le voltmètre réglé sur 580 mV, vérifier la sortie de l'oscillateur audio. Puis, vérifier l'atténuateur et le régler sur 580 mV − 25 dB. (Fréquence: 400 Hz)
2) Après avoir enregistré dans ces conditions de réglage, régler l'oscillateur audio sur 10 kHz et enregistrer de nouveau.
3) Mettre l'appareil en mode de "reproduction", faire une lecture de la sortie et vérifier que la différence de sortie entre les deux fréquences soit comprise dans une plage de ± 1,5 dB.
4) Si la différence de sortie n'est pas dans cette plage de ± 1,5 dB, faire les réglages approriés sur le RT402LR, puis, comme précédemment, recommencer le test d'enregistrement/reproduction, en veillant à ce que la sortie soit dans la plage de ± 1,5 dB.

Note: Si vous utilisez des bandes au chrome lors de la vérification, et si la plage dépasse les ± 3 dB spécifiés, refaire les réglages à l'aide d'une bande normale.

(2) Vérification du niveau de sortie d'enregistrement et de reproduction.
1) Brancher un voltmètre électronique sur PL407 et une oscillateur audio aux bornes AUX IN. Appliquer un signal de 400 Hz, passer en mode d'enregistrement et enregistrer tout en réglant la sortie de l'oscillateur audio de façon à ce que la voltmètre indique 580 mV − 10 dB.
2) Passer en mode de "reproduction" et vérifier que la sortie soit de − 10 dB ± 2 dB.

5. Inspection et réglage du châssis de cassette

No.	Point d'inspection	Valeur de référance	Observation
1	Valeur de compression de galet presseur	De 300 à 500 g	(Remarque 1) Dynamomètre de Tension
2	Couple en lecture	De 30 à 60 g·cm	Cassette de couple d'entrafnement
3	Couple avance rapid/rebobinage	Plus de 55 g·cm	Cassette de couple d'entrafnement
4	Tension bobine débitriee	De 2,0 à 6,0 g·cm	Cassette de couple d'entrafnement
5	Jeu axial sur volant	De 0,05 à 0,5 mm	

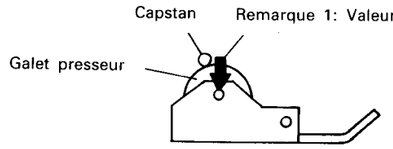


Fig. 31

LUBRICATION

Apply one or two drops of pan motor oil or sonic slider oil to rotating parts. Coat sliding parts with Molycoat (EL-10M). Lubricate once a year or every 1000 hours of operation. Do not let oil contact belts or idlers.

Rotating parts	Metal to metal	Pan motor oil (10W-40)
	Plastics to metal	Sonic slider oil (#1600)
Sliding parts	Plastics to plastics Plastics to metal	Molycoat (EL-10M)
Spring vibration prevention		Floyl (GB-TS-1)

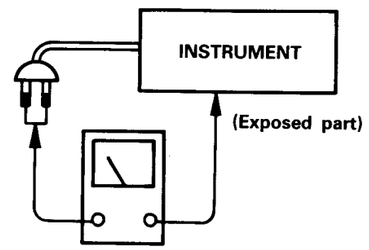
LUBRIFICATION

Appliquer une ou deux gouttes d'huile moteur ou d'huile Sonic pour curseur, sur les membres rotatifs. De la graisse Molycoat (EL-10M) est appliquee sur les membres coulissants.
Lubrifier une fois par an ou toutes les 1000 heures de fonctionnement.
Veiller à ne pas appliquer d'huile sur les courroies ou les galets.

Membres rotatifs	Entre les parties métalliques	Huile moteur (10W-40)
	Entre le moulage et les parties métalliques	Huile Sonic pour curseur (#1600)
Membres coulissants	Entre moulures et moulures Entre moulures et pièces métalliques	Molycoat (EL-10M)
Prévention de vibration de ressort		Floyl (GB-TS-1)

Check that exposed parts are acceptably insulated from the supply circuit before returning the instrument repaired to the customer.

- **Checking method**
  Power switch is set to ON.
  Next, measure the resistance value between the both poles of attachment cup (Power supply plug) and the AUX IN terminals and check that the resistance value is 500 kohms or more.



Insulation tester (DC 500V)

●CD PLAYER SECTION

Method of Adjustment for CD Player (Fig. 32, 33)

1. **The CD Operating Button and the Power Switch P.W.B. are removed first. (See P.6, Fig. 7/Fig. 8)**
2. **Remove two screws Ⓐ and pull out the Lead Wire at the bottom of the chassis (which connects to the CD Function Switch P.W.B.). (Fig. 32a)**
3. **Remove two screws Ⓑ and one screw Ⓒ and then remove the Laser/Open Switch P.W.B. together with the P.W.B. Holder (Fig. 32a)**
4. **Remove four screws Ⓓ and set the PX P.W.B. On the Cassette Chassis Main Base and the hubs of the Bottom Case. (Fig. 32b)**
5. **After removing the Barlock and three screws Ⓔ, rest the Unit Mechanism on the Cassette Button and then carry out the Adjustment. (Before placing the Unit Mechanism on the Cassette Button spread-some thick paper or similar material between them as insulation). (Fig. 32b/Fig. 33)**
6. **After the adjustment is completed, set the Lead Wire in place under the Barlock as it was prior to the adjustment.**

●SECTION LECTEUR CD

Méthode de réglage du lecteur CD (Fig. 32, 33)

1. **Enlever tout d'abord la touche de fonctionnement CD et la plaquette de l'interrupteur d'alimentation. (Voir la fig. 7 et la fig. 8 en page 6)**
2. **Enlever deux vis Ⓐ et le fil conducteur situé au fond du châssis (relié à la plaquette commutateurs de fonction CD). (Fig. 32a)**
3. **Enlever deux vis Ⓑ et une vis Ⓒ, puis enlever la plaquette de commutateur laser/ouvrir conjointment au support de plaquette. (Fig. 32a)**
4. **Enlever quatre vis Ⓓ et placer la plaquette PX sur la plaquette principale du châssis de cassette, ainsi que les supports de maintien du boîtier inférieur. (Fig. 32b)**
5. **Après avoir enlevé le maintien de barre et les trois vis Ⓔ, poser le mécanisme de l'unité sur les touches de cassette et effectuer le réglage. (Avant de placer le mécanisme de l'unité sur les touches de cassette, intercaler du papier épais ou une feuille isolante en tant qu'isolation.) (Fig. 32b/Fig. 33)**
6. **Après la fin du réglage, mettre le fil conducteur en place sous le maintien de barre, dans la position qui était celle avant la réglage.**

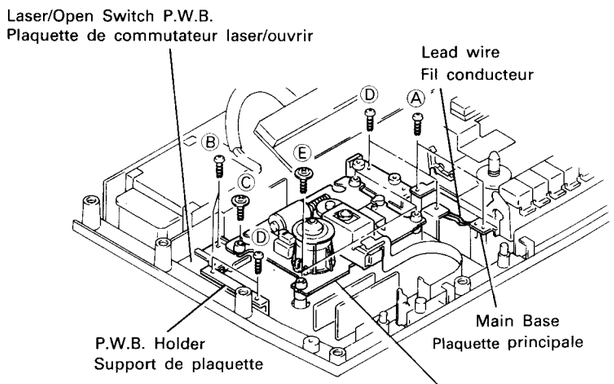


Fig. 32a

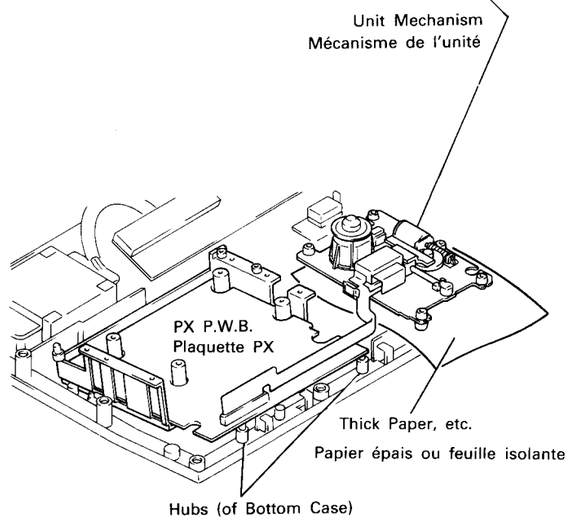


Fig. 32b

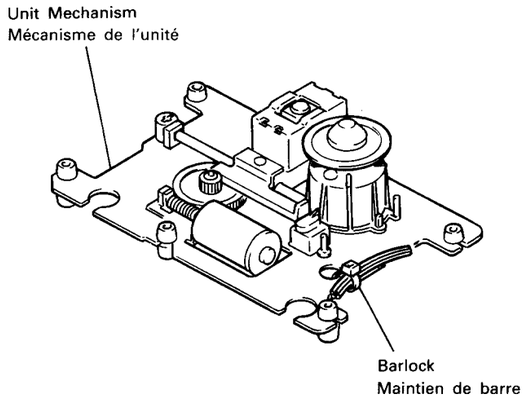


Fig. 33

Adjustment procedure

Whenever any of the operations listed below are carried out, then, without fail, make sure to perform the circuit adjustments described in section 1 — 4 below.

(1) Replacement of parts and Overhaul in the Unit Mechanism Assembly
(2) Replacement of parts in the Pickup Unit
(3) Replacement of parts in the CD power supply circuit

CD PLAYER CIRCUIT ADJUSTMENT

Note) If the adjustment is being made following the replacement of parts in the Pickup Unit, preset the Variable Resistors as shown in the table below.

●Presetting

Adjustment	Circuit Number	Preset Position
Laser Diode Output	R905	Center
Tracking Servo Offset	R914	Center
Focus Servo Offset	R908	Center

Adjustments should be made in the following sequence:

PX P.W.B.

●Location of adjustments

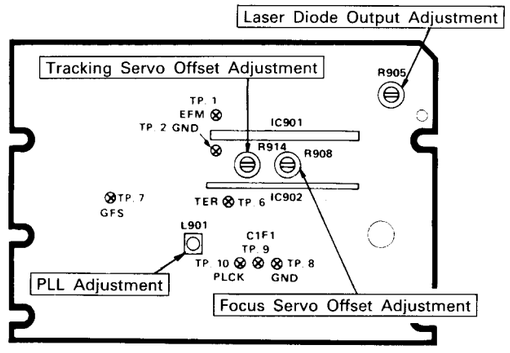


Fig. 34 a

1. Laser Diode Output Adjustment

Note) Do not perform this adjustment except when the Pickup Mechanism, Laser Circuit or the CD Power Circuit has undergone replacement of parts.

(1) Instrument to be used
Oscilloscope

(2) Adjusting Procedure
1) Connect the oscilloscope to TP. 1 (EFM) and TP. 2 (GND) (Fig. 35a).
2) Load a disc into the player, clamper in, set the Laser /Open Switch to "ON" and take a reading of the EFM signal with the oscilloscope.

Note) When the Laser/Open switch is "ON" never peek into the lens. This is very dangerous.

How to Read the EFM Signal Wave Form and Procedure for Connecting the Oscilloscope

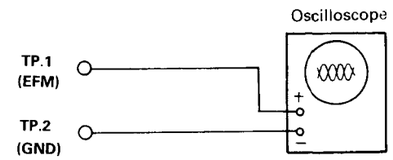


Fig. 35 a

3) Adjust the R905 so that the amplitude of the EFM signal in the oscilloscope reaches a level of 1.3 V ± 40 mV.

Note) However, if the signal level is within the range of 1.1 — 1.5 V, it is normal and no adjustment is necessary.

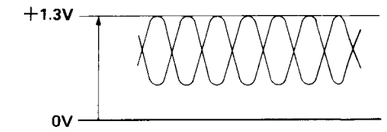


Fig. 36 a

2. Focus Servo Offset Adjustment

(1) Instruments to be used
Oscilloscope
DC Voltmeter

(2) Adjustment Procedure
1) Set the player to "Stop" mode.
2) Connect the oscilloscope to TP. 1 (EFM) and TP. 2 (GND).
3) Connect the DC Voltmeter as shown in Fig. 37a.
4) Load a disc in the player, clamper in, set the Laser/Open Switch to "ON" and take a reading of the EFM signal with the oscilloscope.
5) Adjust R908 so that the EFM signal reaches its maximum amplitude.
6) After making the adjustment, use the DC voltmeter to check that the center voltage of the R908 is within the 2 — 3 V range.
7) If the center voltage is not within the specified range, readjust as follows:
Less than 2V: Set to 2V
More than 3V: Set to 3V

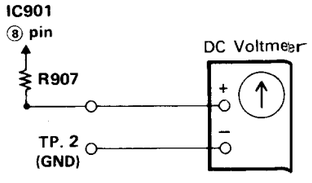


Fig. 37 a

3. Tracking Servo Offset Adjustment

(1) Instrument to be used
DC Voltmeter

(2) Adjustment Procedure
1) Steps 1 and 2 are post adjustment procedures.
2) While in the "Stop" mode, connect the DC voltmeter to TP. 6 (TER). (Fig. 38a)
3) Adjust R914 so that the DC voltmeter indicates + 10 mV ± 2 mV.

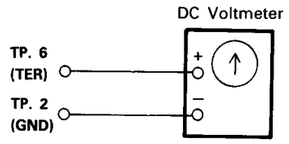


Fig. 38 a

4. Adjusting the PLL

Note) Do not make any adjustments except when parts have been replaced in the PLL Block or in the CD Power Circuit.

(1) Instruments to be used
Frequency Counter
Oscilloscope

(2) Preparations
Connect the instruments as shown in Fig. 40a.

(3) Adjustment Procedure
1) With the set in the "Stop" mode preset L901 so that the frequency at TP. 10 (PLCK) is 4,500 ± 50 Hz.
2) Put the set in "Play" mode. Turn L901 clockwise (in the direction of the core) until the level of TP. 7 (GFS) becomes "Low". Then turn L901 counterclockwise (in the direction away from the core) and find the position where the level goes to "High".
3) Put the set in "Stop" mode and read the frequency (f1) of TP. 10 (PLCK).
4) Put the set in "Play" mode and turn L901 counterclockwise until the level of TP. 7 (GFS) goes to "Low". Then, reverse the procedure. Turn L901 clockwise and find the position where the level goes to "High".
5) Put the set in "Stop" mode and read the frequency (f2) at TP. 10 (PLCK).
6) Adjust L901 so that the frequency at TP. 10 (PLCK) is (f1 + f2) x 1/2.

(4) Operation Check
After making adjustments 1) through 6), above, put the set into "Play" mode. Check that the frequency at TP. 10 (PLCK) is 4,321.8 kHz ± 400 Hz Check to see that the wave form at TP. 7 (GFS) is as shown in Fig. 39a. The level at TP. 7 (GFS) may occasionally go to "Low".

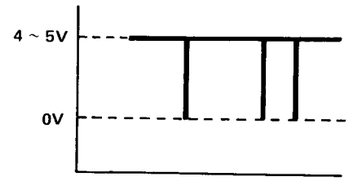


Fig. 39 a

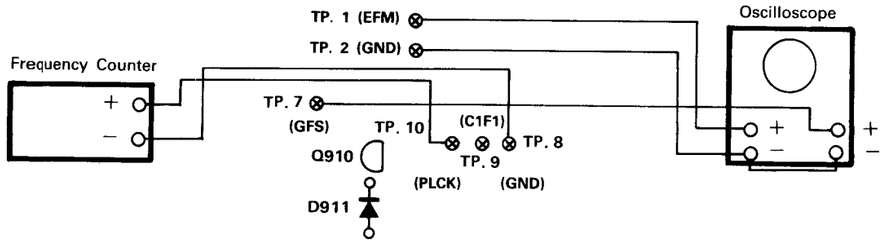


Fig. 40 a

5. Inspecting the Actuator (Fig. 41a)

Check the resistance of the Actuator Coils. If the values are as follows the condition is normal:
Focus Coil ..... 30Ω (Ohms)
Tracking Coil ..... 10Ω (Ohms)
If any coil is open or short circuited, the actuator may be defective. Check that the lens moves with a 1.5V dry cell.

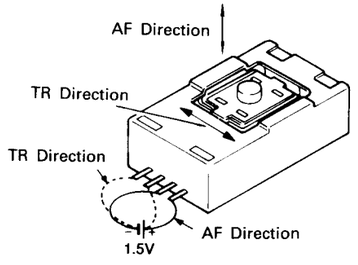


Fig. 41 a

Méthode de réglage
Lorsqu'une quelconque des opérations ci-dessous est effectuée, veiller à faire les réglages de circuit décrits aux sections 1-4 ci-dessous.
(1) Remplacement et démontage des pièces de l'ensemble du mécanisme de l'unité.
(2) Remplacement des pièces dans l'unité de tête de lecture.
(3) Remplacement des pièces dans le circuit d'alimentation CD.

Réglage du circuit du lecteur CD

Note: Si le réglage est fait après le remplacement des pièces de l'unité de tête de lecture, prérégler la résistance variable comme indiqué sur la table ci-dessous.

● Préréglage

Réglage	Numéro du circuit	Position de préréglage
Sortie de diode laser	R905	Centre
Décentrage du servo de lecture de piste	R914	Centre
Décentrage du servo de focalisation	R908	Centre

Les réglages doivent être effectués dans l'ordre suivant.

Plaquette PX

● Emplacements de réglage

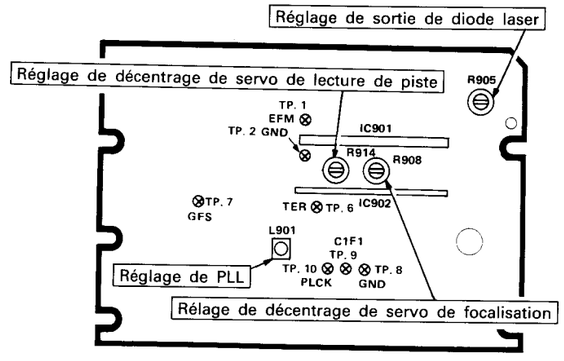


Fig. 34 b

1. Réglage de sortie de diode laser

Note: De pas faire ce réglage sauf lorsque les pièces du mécanisme de tête de lecture, du circuit laser ou du circuit d'alimentation CD ont été remplacées.

(1) Instrument à utiliser
Oscilloscope

(2) Procédure de réglage
1) Brancher l'oscilloscope sur TP. 1 (EFM) et TP. 2 (GND) (Fig. 35b)
2) Mettre un disque dans le lecteur, bride de fixation, mettre le commutateur laser/ouvrir sur "ON" et faire une lecture d'un signal EFM à l'aide de l'osilloscope.

Note: Lorsque le commutateur laser/ouvrir est sur "ON", ne jamais regarder dans la lentille, C'est très dangereux.

Comment lire la forme d'onde du signal EFM et comment brancher l'oscilloscope

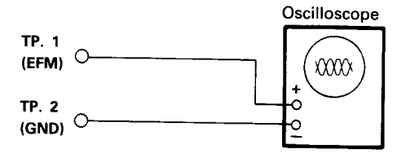


Fig. 35 b

3) Régler R905 de facon à ce que l'amplitude du signal EFM de l'oscilloscope atteigne un niveau de 1, 3 V ± 40 mV.

Note: Néanmoins, si le niveau de signal est dans la plage de 1, 1 V — 1, 5 V, c'est normal et aucun autre réglage ne s'impose.

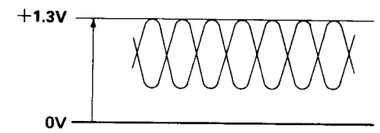


Fig. 36 b

2. Réglage du décalage du servo de focalisation

(1) Instruments à utiliser
Oscilloscope
Voltmètre CC

(2) Procédure de réglage
1) Mettre le lecteur en mode "arrêt".
2) Brancher l'oscilloscope sur TP. 1 (EFM) et TP. 2 (GND).
3) Brancher le voltmètre comme indiqué sur la Fig. 37b.
4) Mettre un disque dans le lecteur, bride de fixation, mettre le commutateur laser/ouvrir sur "ON" et faire une lecture d'un signal EFM à l'aide de l'oscilloscope.
5) Régler R908 de façon à ce que le signal EFM atteigne son amplitude maximale.
6) Après avoir fait le réglage, utiliser le voltmètre CC pour vérifier que la tension centrale de R908 est dans la plage 2 — 3 V.
7) Si la tension centrale n'est pas dans la plage spécifiée, rerégler comme indiqué ci-dessous:
Moins de 2 V: régler sur 2 V.
Plus de 3 V: régler sur 3 V.

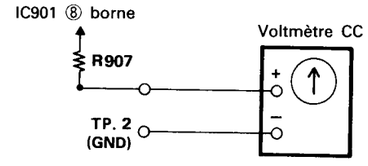


Fig. 37 b

3. Réglage du décalage du servo de lecture de piste

(1) Instrument à utiliser
Voltmètre CC

(2) Procédure de réglage

1) Les étapes de réglage 1 et 2 s'effectuent après le réglage.
2) Tout en étant en mode "arrêt", brancher le voltmètre CC sur TP. 6 (TER). (Fig. 38b)
3) Régler R914 de façon à ce que le voltmètre CC indique + 10 mV ± 2 mV.

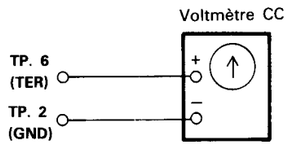


Fig. 38 b

4. Réglage de PLL

Note: Ne faire aucun réglage, sauf lorsque les pièces ont été remplacées dans le bloc PLL ou dans le circuit d'alimentation CD.

(1) Instruments à utiliser
Fréquencemètre
Oscilloscope

(2) Préparation
Brancher les instruments comme indiqué sur la Fig. 40b.

(3) Procédure de réglage

1) Avec l'appareil dans le mode "arrêt", prérégler L901 de façon à ce que la fréquence au niveau de TP. 10 (PLCK) soit de 4500 ± 50 Hz.
2) Mettre l'appareil dans le mode "reproduction". Tourner L901 dans le sens des aiguilles d'une montre (dans la direction du noyau) jusqu'à ce que le niveau de TP. 7 (GFS) soit "bas". Puis, tourner L901 dans le sens inverse des aiguilles d'une montre (dans la direction opposée du noyau), et trouver la position pour laquelle le niveau passe à "haut".
3) Mettre l'appareil dans le mode "arrêt" et lire la fréquence (f1) au niveau de TP. 10 (PLCK).
4) Mettre l'appareil en mode "reproduction" et tourner L901 dans le sens inverse des aiguilles d'une montre jusqu'à ce que le niveau TP. 7 (GFS) passes à "bas". Puis, inverser la procédure. Tourner L901 dans le sens de aiguilles d'une montre et trouver la position pour laquelle le niveau passe sur "haut".
5) Mettre l'appareil en mode "arrêt" et lire la fréquence (f2) au niveau de TP. 10 (PLCK).
6) Régler L901 de façon à ce que la fréquence au niveau de TP. 10 (PLCK) soit (f1 + f2) x 1/2.

(4) Vérification du fonctionnement
Après avoir fait les réglages 1) à 6) ci-dessus, mettre l'appareil en mode "reproduction". Vérifier que la fréquence au niveau de TP. 10 (PLCK) soit de 4321,8 ± 400 Hz.
Vérifier que la forme d'onde au niveau de TP. 7 (GFS) soit comme indiquée sur la Fig. 39b.
Il se peut que le neveau au niveau de TP. 7 (GFS) passe parfois sur "bas".

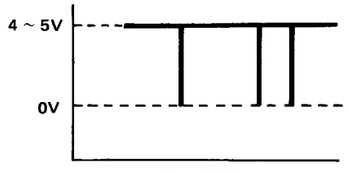


Fig. 39 b

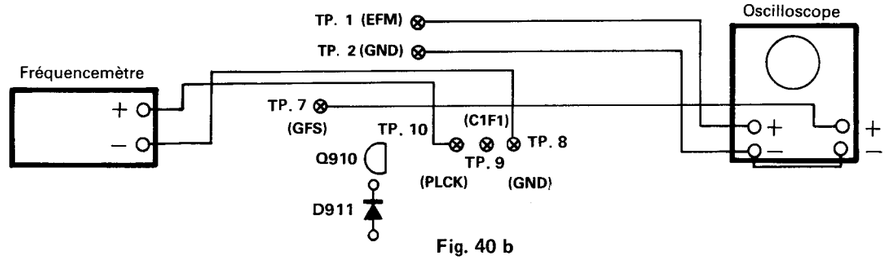


Fig. 40 b

5. Vérification de l'actionneur (Fig. 41b)

Vérifier le niveau de résistance des bobines de l'actionneur. Si les valeurs sont comme indiqué ci-dessous, le fonctionnement est correct.
Bobine de focalisation ..... 30 (ohms)
Bobine de lecture de piste ..... 10 (ohms)
Si une bobine quelconque est, il se peut que l'actionneur soit défecteux. Vérifier que la lentille se déplace avec une pile sèche de 1, 5 V.

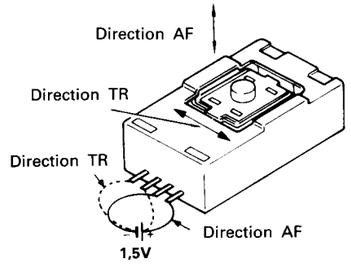
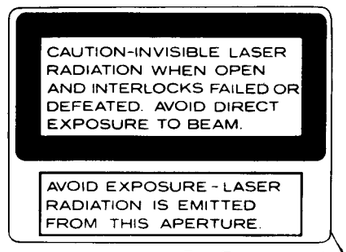


Fig. 41 b

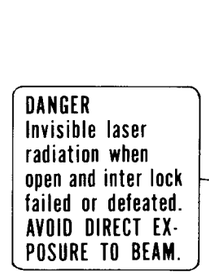
WARNING LABEL · ETIQUETTE D'AVERTISSEMENT



For Europe and Australia, etc.
Pour l'Europe et l'Australie, etc.

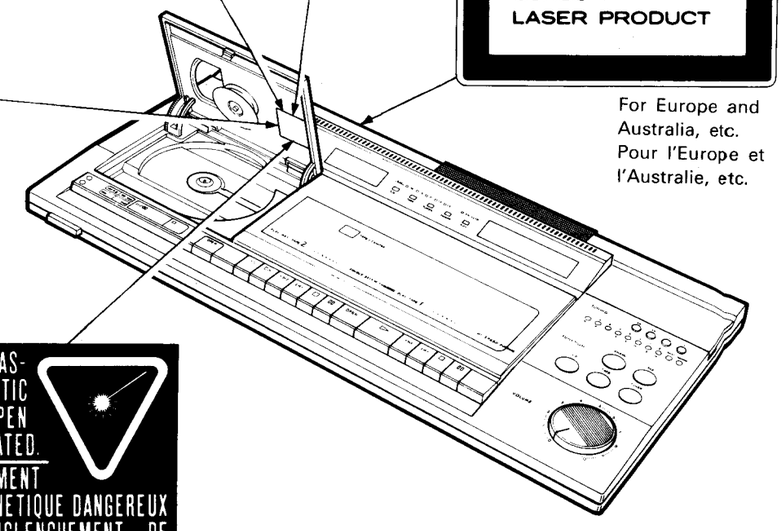
For Sweden, Denmark, Norway
Finland, and Switzerland
Pour Suède, Danemark, Norvège
Finlande, et Suisse

EXPLANATORY LABEL ON REAR-SIDE
ETIQUETTE EXPLICATIVE DU PANNEAU ARRIÈRE



For U.S.A
Pour les Etats Unis

For Europe and
Australia, etc.
Pour l'Europe et
l'Australie, etc.



For Canada
Pour le Canada

THIS LASER COMPACT DISC PLAYER FUNCTIONS BY HELP OF INVISIBLE LASERLIGHT AND IS EQUIPPED WITH SAFETY-SWITCHES TO AVOID EXPOSURE WHEN DOOR IS OPEN AND SAFETY INTERLOCKS ARE DEFEATED. IT IS DANGEROUS TO SET SAFETYSWITCHES OUT OF FUNCTION.
THERE ARE NO USER'S SERVICEABLE PARTS INSIDE THE UNIT, LEAVE ALL SERVICE TO QUALIFIED SERVICE PERSONNEL.

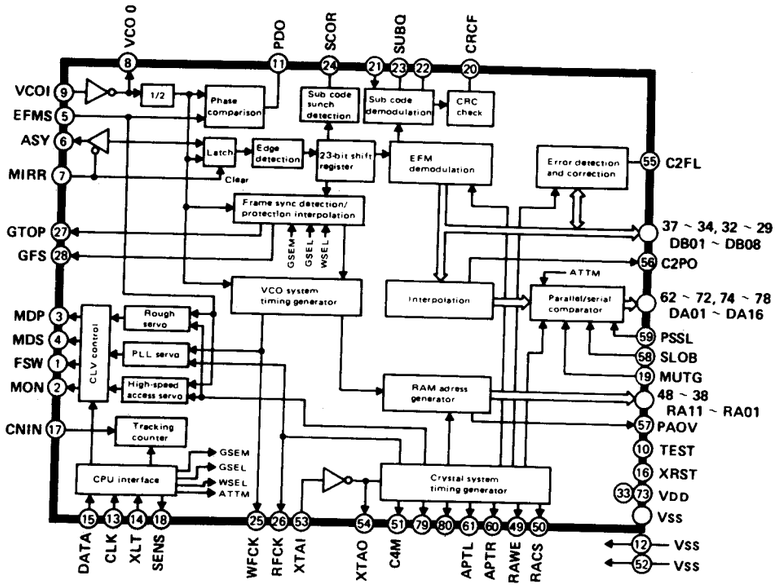
CE LECTEUR DE DISQUE COMPACT FAIT APPEL A UN RAYON LASER INVISIBLE ET IL EST DOTE D'INTERRUPTEURS DE SECURITE PERMETTANT D'EVITER TOUTE EXPOSITION AU RAYON LORSQU'ON OUVRE LA PORTE ET QUE LES VERROUILLAGES DE SECURITE SONT DEBLOQUES. IL EST DANGEREUX DE MANIPULER LES INTERRUPTEURS DE SECURITE DE L'APPAREIL QUAND CE DERNIER N'EST PAS EN SERVICE.
L'APPAREIL NE RENFERME AUCUNE PIECE QUI PUISSE ETRE REPAREE PAR L'UTILISATEUR. ON CONFIERA DONC TOUS TRAVAUX DE REPARATION A UN PERSONNEL QUALIFIE.

Inside of the set is a laser component emitting a laser radiation over the limit for laser class 1.

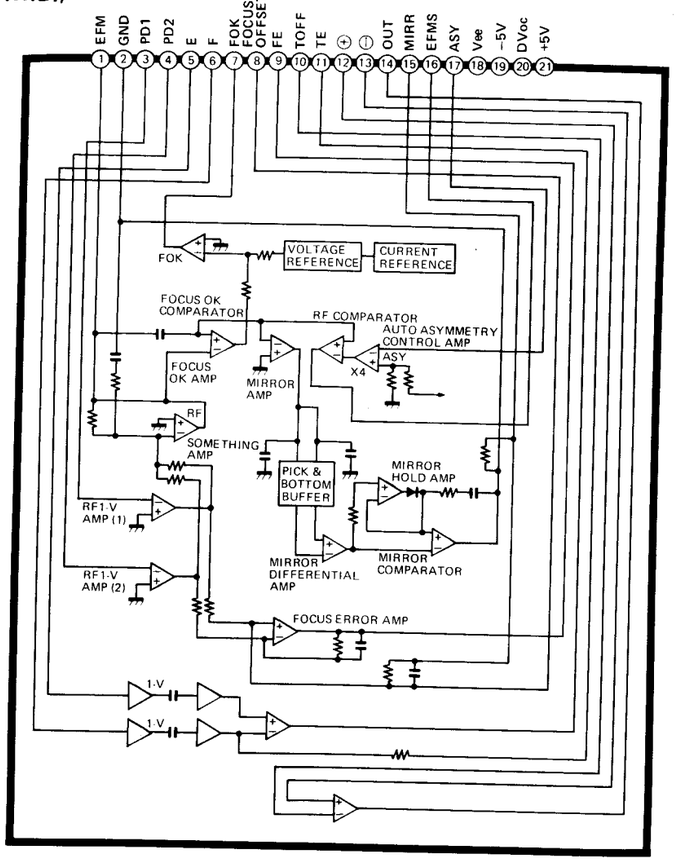
Inuti apparaten finns en laserkomponent som avger laserstrålning över gränsen för laser klass 1.

IC INTERNAL BLOCK DIAGRAM · SCHÉMA FONCTIONNEL INTERE IC

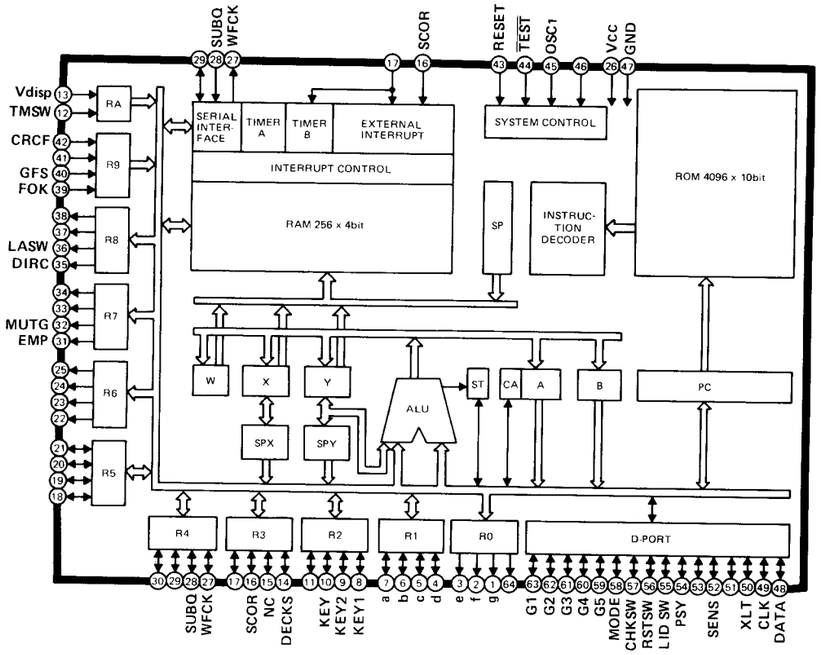
IC906 CX23035 (PX P.W.B.)
DIGITAL SIGNAL IC



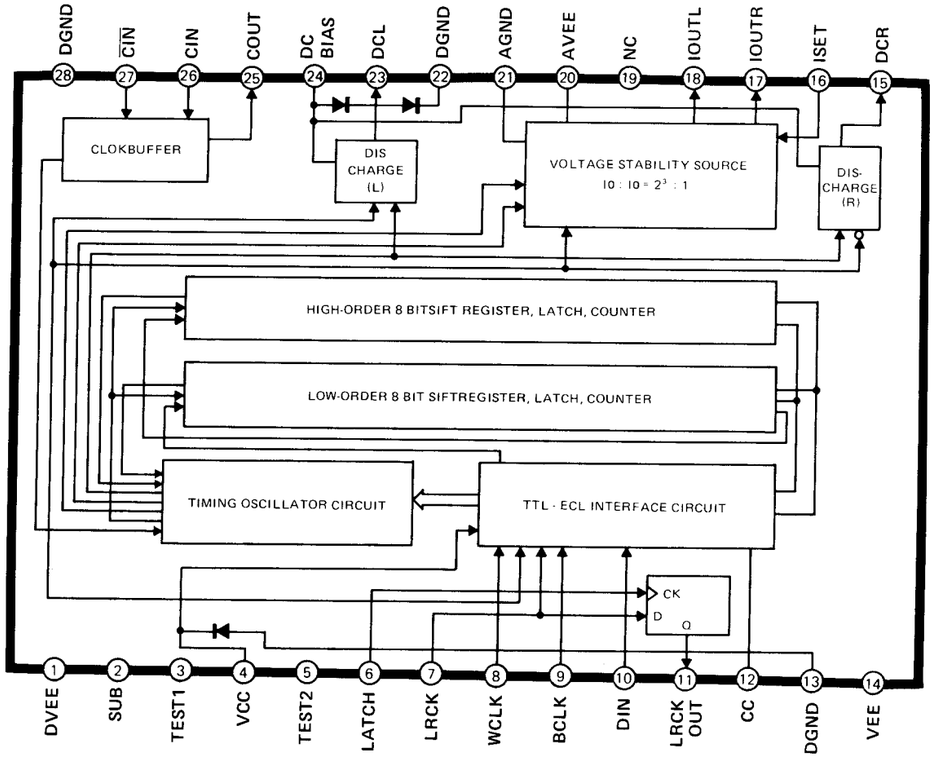
IC901 TM5050 (PX P.W.B.)
PRE-AMP MODULE



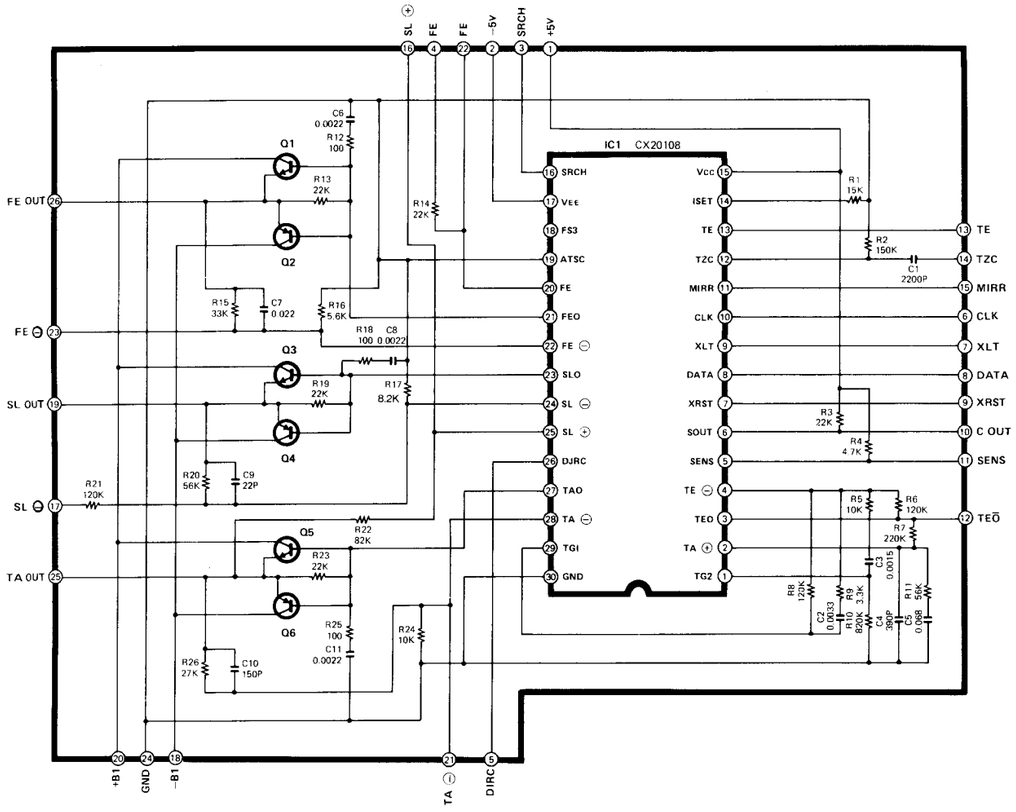
IC905 HD614042FD91 (PX P.W.B.)
MICROCOMPUTER



IC908 CX20133 (PX P.W.B.)
D/A CONVERTER



IC902 TM5060C (PX P.W.B.)
SERVO IC



DIFFERENCE FOR DESTINATION (for MAIN P.W.B.)
DIFFÉRENCE EN FONCTION DU PAYS DE DESTINATION (pour la plaquette principale)

☆No.	US, EW	CS	KS	SA	ES, VS	BK	ZS
C102—107	—	—	—	—	—	—	USE
C156, 157	—	—	—	—	USE	USE	—
C159—162	—	—	—	—	USE	USE	—
C313LR	—	—	—	—	—	—	USE
C431LR	—	—	—	—	—	USE	—
C435	—	—	—	—	—	—	USE
C437LR	USE	USE	USE	USE	USE	—	USE
C480LR	USE	USE	USE	USE	USE	—	USE
C510LR	—	—	—	—	—	—	USE
C512, 513	—	—	—	—	—	—	USE
C703LR	USE	USE	USE	USE	USE	USE	—
C711LR	—	—	—	—	—	—	USE
C712, 713	—	—	—	—	—	—	USE
C714	Jumper (27)	Jumper (27)	Jumper (27)	Jumper (27)	Jumper (27)	Jumper (27)	USE
C715LR	—	—	—	—	—	—	USE
C716	—	—	—	—	—	—	USE
C756LR	—	—	—	—	—	—	USE
C825, 826	—	—	—	—	—	—	USE
C831—837	—	—	—	—	—	—	USE
R1	US only	USE	—	—	—	—	—
R102	Jumper (240)	Jumper (240)	Jumper (240)	Jumper (240)	Jumper (240)	Jumper (240)	USE
R103	—	—	—	—	—	—	USE
R105 — 107	—	—	—	—	—	—	USE
R157, 158	—	—	—	—	USE	USE	—
R160 — 164	—	—	—	—	USE	USE	—
R322	—	—	—	—	USE	USE	—
R383, 384	USE	—	—	—	—	—	—
R425LR	USE	USE	USE	USE	USE	—	USE
R433, 434	USE	USE	USE	USE	USE	—	USE
R477LR	USE	USE	USE	USE	USE	—	USE
R720LR	A	A	A	A	A	A	B
Q101, 102	—	—	—	—	—	—	USE
Q151—154	—	—	—	—	USE	USE	—
Q422LR, 423, 472LR	USE	USE	USE	USE	USE	—	USE
D103, 104	—	—	—	—	—	—	USE
D152—155, 158	—	—	—	—	USE	USE	—
L152	—	—	—	—	USE	USE	—
T152	—	—	—	—	USE	USE	—
JK102	—	—	USE	—	USE	USE	USE
CT152	—	—	—	—	USE	USE	—
CP101	—	—	—	—	—	—	USE
CP251	—	—	—	—	VS: USE ES: —	—	USE
MF202	—	—	—	—	—	—	USE
F801	USE	—	—	—	—	—	—
S370	USE	—	—	—	—	—	—
Jumper (189)	—	—	—	—	USE	USE	—
Jumper (193)	USE	USE	USE	USE	—	—	USE
Jumper (194)	USE	USE	USE	USE	—	—	USE
Jumper (236)	USE	USE	USE	USE	—	—	USE
Jumper (198)	—	—	—	—	—	—	USE
Jumper (200)	—	—	—	—	—	—	USE
Jumper (201)	USE	USE	USE	USE	USE	USE	—

☆No.	US, EW	CS	KS	SA	ES, VS	BK	ZS
Jumper (33)	USE	USE	USE	USE	USE	USE	—
Jumper (191)	—	USE	USE	USE	USE	USE	USE
Jumper (255)	—	—	USE	USE	USE	USE	USE
Jumper (229)	USE	USE	USE	USE	VS: — ES: USE	—	—
Jumper (410)	—	—	—	—	—	USE	—
Jumper (411)	—	—	—	—	—	USE	—
WIRE H	—	—	—	—	—	—	USE
WIRE J	—	—	—	—	—	—	USE
WIRE K	—	—	—	—	—	—	USE
WIRE L	—	—	—	—	—	—	USE
WIRE g	USE	USE	USE	USE	USE	—	USE

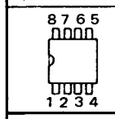
(for CIRCUIT DIAGRAM) (pour le schéma des circuits)

☆No.	US	CS	EW	KS	SA	ES, VS	BK	ZS
C102	—	—	—	—	—	—	—	0.22 μF/50V
C103	—	—	—	—	—	—	—	1 μF/50V
C104	—	—	—	—	—	—	—	0.022 μF
C105	—	—	—	—	—	—	—	39PF
C106	—	—	—	—	—	—	—	39PF
C107	—	—	—	—	—	—	—	0.022 μF
C154	15PF	15PF	15PF	15PF	15PF	12PF	12PF	15PF
C156	—	—	—	—	—	0.047 μF	0.047 μF	—
C157	—	—	—	—	—	27PF	27PF	—
C159	—	—	—	—	—	270PF	270PF	—
C160	—	—	—	—	—	1 μF	1 μF	—
C161	—	—	—	—	—	110PF	110PF	—
C162	—	—	—	—	—	0.022 μF	0.022 μF	—
C307LR	0.022 μF	0.022 μF	0.018 μF	0.018 μF	0.018 μF	0.018 μF	0.018 μF	0.018 μF
C313LR	—	—	—	—	—	—	—	2200PF
C353	0.022 μF	0.022 μF	0.022 μF	0.022 μF	0.022 μF	0.022 μF	0.022 μF	4700PF
C354	—	—	—	—	—	0.22 μF/50V	0.22 μF/50V	—
C355	—	—	—	—	—	1 μF/50V	1 μF/50V	—
C356	—	—	—	—	—	0.68 μF	0.68 μF	—
C431LR	—	—	—	—	—	—	0.027 μF	—
C435	—	—	—	—	—	—	—	470PF
C437LR	0.027 μF	0.027 μF	0.027 μF	0.027 μF	0.027 μF	0.027 μF	—	0.027 μF
C480LR	1200PF	1200PF	1200PF	1200PF	1200PF	1200PF	—	1200PF
C501LR	150PF	150PF	150PF	150PF	150PF	150PF	150PF	1000PF
C510LR	—	—	—	—	—	—	—	560PF
C512	—	—	—	—	—	—	—	0.022 μF
C513	—	—	—	—	—	—	—	0.022 μF
C700LR	330PF	330PF	330PF	330PF	330PF	330PF	330PF	82PF
C703LR	3.3PF	3.3PF	3.3PF	3.3PF	3.3PF	3.3PF	3.3PF	—
C711LR	—	—	—	—	—	—	—	1000PF
C712	—	—	—	—	—	—	—	0.047 μF
C713	—	—	—	—	—	—	—	0.1 μF
C714	—	—	—	—	—	—	—	0.047 μF
C715LR	—	—	—	—	—	—	—	0.022 μF
C716	—	—	—	—	—	—	—	0.047 μF
C756LR	—	—	—	—	—	—	—	0.022 μF
C825	—	—	—	—	—	—	—	0.01 μF
C826	—	—	—	—	—	—	—	0.01 μF
C831	—	—	—	—	—	—	—	0.01 μF
C832	—	—	—	—	—	—	—	0.01 μF
C833	—	—	—	—	—	—	—	0.022 μF
C834	—	—	—	—	—	—	—	0.01 μF

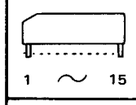
☆No.	US	CS	EW	KS	SA	ES, VS	BK	ZS
C835	—	—	—	—	—	—	—	0.01 μF
C836	—	—	—	—	—	—	—	0.01 μF
C837	—	—	—	—	—	—	—	0.022 μF
R1	2.7MΩ	2.7MΩ	—	—	—	—	—	—
R102	Jumper (240)	Jumper (240)	Jumper (240)	Jumper (240)	Jumper (240)	Jumper (240)	Jumper (240)	100KΩ
R103	—	—	—	—	—	—	—	100KΩ
R105	—	—	—	—	—	—	—	10KΩ
R106	—	—	—	—	—	—	—	100KΩ
R107	—	—	—	—	—	—	—	2.7KΩ
R151	1KΩ (1/6W)	1KΩ (1/2W)	1KΩ (1/6W)	1KΩ (1/6W)	1KΩ (1/6W)	1KΩ (1/6W)	1KΩ (1/6W)	1KΩ (1/6W)
R157	—	—	—	—	—	10KΩ	10KΩ	—
R158	—	—	—	—	—	10KΩ	10KΩ	—
R160	—	—	—	—	—	220KΩ	220KΩ	—
R161	—	—	—	—	—	1.5KΩ	1.5KΩ	—
R162	—	—	—	—	—	100KΩ	100KΩ	—
R163	—	—	—	—	—	4.7KΩ	4.7KΩ	—
R164	—	—	—	—	—	100KΩ	100KΩ	—
R208	2.2KΩ	2.2KΩ	2.2KΩ	2.2KΩ	2.2KΩ	2.2KΩ	2.2KΩ	1KΩ
R253	1KΩ	1KΩ	1.8KΩ	1.8KΩ	1.8KΩ	1.8KΩ	1.8KΩ	1.8KΩ
R322	—	—	—	—	—	10KΩ	10KΩ	—
R355	—	—	—	—	—	6.8KΩ	6.8KΩ	—
R356	—	—	—	—	—	6.8KΩ	6.8KΩ	—
R357	—	—	—	—	—	10KΩ	10KΩ	—
R358	—	—	—	—	—	1KΩ	1KΩ	—
R378	47KΩ	100KΩ	47KΩ	100KΩ	100KΩ	100KΩ	100KΩ	100KΩ
(MAIN P.W.B.) R383	47KΩ	—	47KΩ	—	—	—	—	—
R384	47KΩ	—	47KΩ	—	—	—	—	—
R425LR	1KΩ	1KΩ	1KΩ	1KΩ	1KΩ	1KΩ	—	1KΩ
R433	2.2KΩ	2.2KΩ	2.2KΩ	2.2KΩ	2.2KΩ	2.2KΩ	—	2.2KΩ
R434	5.6KΩ	5.6KΩ	5.6KΩ	5.6KΩ	5.6KΩ	5.6KΩ	—	5.6KΩ
R477LR	1KΩ	1KΩ	1KΩ	1KΩ	1KΩ	1KΩ	—	1KΩ
R501LR	560Ω	560Ω	560Ω	560Ω	560Ω	560Ω	560Ω	2.2KΩ
R551	1.8KΩ	1.8KΩ	1.8KΩ	1.8KΩ	1.8KΩ	1.8KΩ	—	1.8KΩ
R552	150Ω	150Ω	150Ω	150Ω	150Ω	150Ω	—	150Ω
R553	1.8KΩ	1.8KΩ	1.8KΩ	1.8KΩ	1.8KΩ	1.8KΩ	—	1.8KΩ
R554	150Ω	150Ω	150Ω	150Ω	150Ω	150Ω	—	150Ω
R555	120KΩ	120KΩ	120KΩ	120KΩ	120KΩ	120KΩ	—	120KΩ
R556	120KΩ	120KΩ	120KΩ	120KΩ	120KΩ	120KΩ	—	120KΩ
R557	5.6KΩ	5.6KΩ	5.6KΩ	5.6KΩ	5.6KΩ	5.6KΩ	—	5.6KΩ
R558	10KΩ	10KΩ	10KΩ	10KΩ	10KΩ	10KΩ	—	10KΩ
R559	3.9KΩ	3.9KΩ	3.9KΩ	3.9KΩ	3.9KΩ	3.9KΩ	—	3.9KΩ
R560	4.7KΩ	4.7KΩ	4.7KΩ	4.7KΩ	4.7KΩ	4.7KΩ	—	4.7KΩ
Q101	—	—	—	—	—	—	—	2SC1740LN(S)
Q102	—	—	—	—	—	—	—	2SK104
Q151	—	—	—	—	—	2SC1740LN(S)	2SC1740LN(S)	—
Q152	—	—	—	—	—	2SC1740LN(S)	2SC1740LN(S)	—
Q153	—	—	—	—	—	2SA933(R)	2SA933(R)	—
Q154	—	—	—	—	—	2SA933(R)	2SA933(R)	—
Q353	—	—	—	—	—	2SC2603EFB	2SC2603EFB	—
Q354	—	—	—	—	—	2SC2603EFB	2SC2603EFB	—
Q422LR	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	—	2SC2603EFB
Q423	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	—	2SC2603EFB
Q472LR	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	—	2SC2603EFB
Q551	2SA844P(C)	2SA844P(C)	2SA844P(C)	2SA844P(C)	2SA844P(C)	2SA844P(C)	—	2SA844P(C)
Q552	2SA844P(C)	2SA844P(C)	2SA844P(C)	2SA844P(C)	2SA844P(C)	2SA844P(C)	—	2SA844P(C)

☆No.	US	CS	EW	KS	SA	ES, VS	BK	ZS
Q553	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	—	2SC2603EFB
Q554	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	2SC2603EFB	—	2SC2603EFB
D103	—	—	—	—	—	—	—	1K60R
D104	—	—	—	—	—	—	—	1K60R
D152	—	—	—	—	—	KV1260	KV1260	—
D153	—	—	—	—	—	1S2473	1S2473	—
D154	—	—	—	—	—	1S2473	1S2473	—
D155	—	—	—	—	—	1S2473	1S2473	—
D158	—	—	—	—	—	1S2473	1S2473	—
D357	—	—	1SS133T	1SS133T	1SS133T	1SS133T	1SS133T	1SS133T
D551	1S2473	1S2473	1S2473	1S2473	1S2473	1S2473	—	1S2473
D552	1S2473	1S2473	1S2473	1S2473	1S2473	1S2473	—	1S2473
D553	1S2473	1S2473	1S2473	1S2473	1S2473	1S2473	—	1S2473
D554	1S2473	1S2473	1S2473	1S2473	1S2473	1S2473	—	1S2473
RT551	2kΩ-(B)	2kΩ-(B)	2kΩ-(B)	2kΩ-(B)	2kΩ-(B)	2kΩ-(B)	—	2kΩ-(B)
RT552	1kΩ-(B)	1kΩ-(B)	1kΩ-(B)	1kΩ-(B)	1kΩ-(B)	1kΩ-(B)	—	1kΩ-(B)
RT553	2kΩ-(B)	2kΩ-(B)	2kΩ-(B)	2kΩ-(B)	2kΩ-(B)	2kΩ-(B)	—	2kΩ-(B)
RT554	1kΩ-(B)	1kΩ-(B)	1kΩ-(B)	1kΩ-(B)	1kΩ-(B)	1kΩ-(B)	—	1kΩ-(B)
L152	—	—	—	—	—	USE	USE	—
T152	—	—	—	—	—	USE	USE	—
JK102	—	—	—	USE	—	USE	USE	USE
CT152	—	—	—	—	—	USE	USE	—
CP101	—	—	—	—	—	—	—	USE
CP251	—	—	—	—	—	VS: USE ES: —	—	USE
MF202	—	—	—	—	—	—	—	USE
F801	2A125V	—	2A125V	—	—	—	—	—
F802	4A125V	4A125V	4A125V	T4A	T4A	T4A	T4A	T4A
F803	1A125V	1A125V	1A125V	T800mA	T800mA	T800mA	T800mA	T800mA
F804	1A125V	1A125V	1A125V	T800mA	T800mA	T800mA	T800mA	T800mA
S363	—	—	—	—	—	USE	USE	—
S370	USE	—	USE	—	—	—	—	—
Jumper (229)	USE	USE	USE	USE	USE	USE	USE	—
Jumper (194)	USE	USE	USE	USE	USE	—	—	USE
Jumper (244)	USE	USE	USE	USE	USE	USE	USE	—
Jumper (201)	USE	USE	USE	USE	USE	USE	USE	—
Jumper (191)	—	USE	—	USE	USE	USE	USE	USE
EF/REW SWITCH	USE	USE	USE	USE	USE	USE	—	USE

M5218P, NJM072, NJM2068DD, NJM4558D, NJM4558DM, μPC457PC, μPB553AC

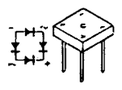


STK4141-2

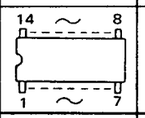


2SC2603EFB

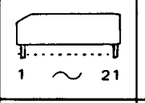
S4VB20



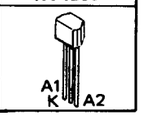
BU4066B



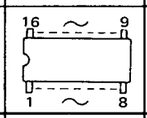
TM5050



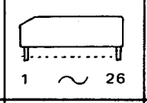
KV1260



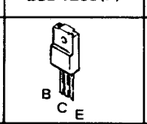
BA6251, BA1330, HD14053B



TM5060C

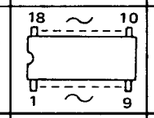


2SB941(P), 2SD1266(P)

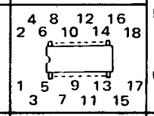


KV1260

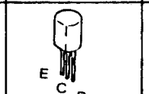
AN6873N, AN7273, HA12045



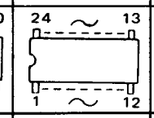
BA3416BL



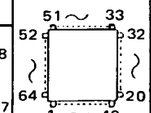
2SB562B



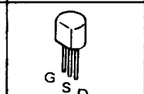
HM6116FP-4, TC9152P



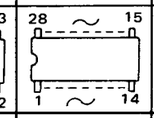
HD614042FD91



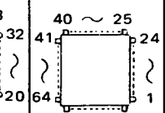
2SK104(F)



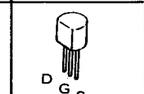
CX20133



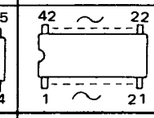
CX23035



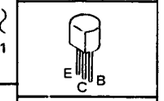
2SK163-L



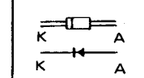
μPD1704C-531



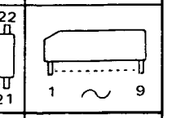
2SA844(C), 2SA933(R), 2SC1740LN(S), 2SD1468(R), 2SD1468(R)



ERB12-01



AN278, BA6124



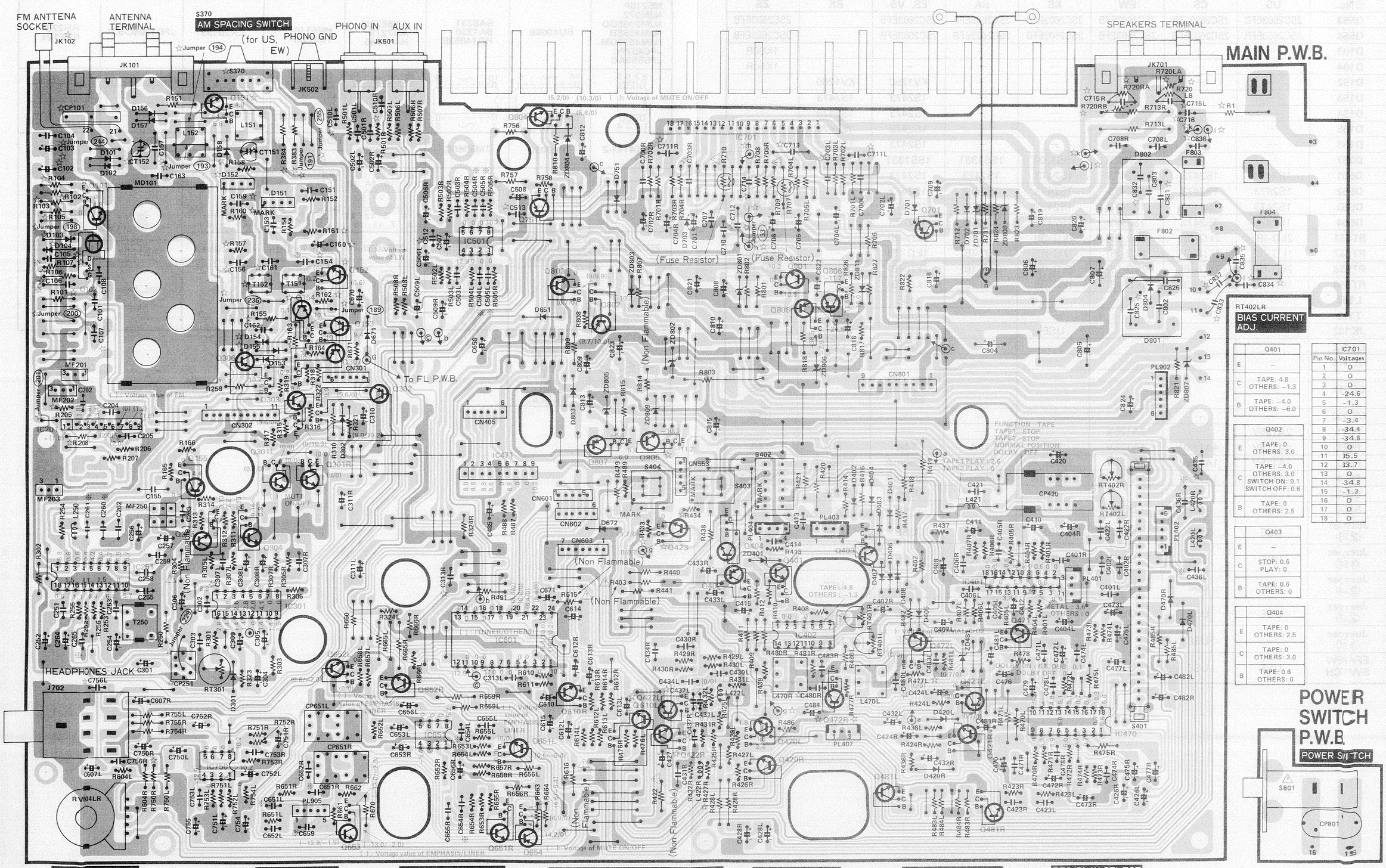
1K34A, 1K60R, 1S2076, 1S2473, 1SS133T, 1S2076A, HZ-3A2, HZ-5C-1, HZ-6B, HZ6B-2, HZ11B2, HZ-12A-2, HZ-12A-3, HZ-24-2

PRINTED WIRING BOARD
PLAN DE BASE

[▭ : Earth , ▭ : Others]

※ Axial lead cylindrical ceramic capacitor.
※ Condensateur céramique cylindrique à conducteur axial.

The circuit symbol (☆) means difference for destination.
Le symbol de circuit (☆) signifie gwil sagit des différence pour destination. (Refer to the table in page 28, 29)



CIRCUIT DIAGRAM
PLAN DE CIRCUIT

[■■■ : +B, ▬▬ : −B]

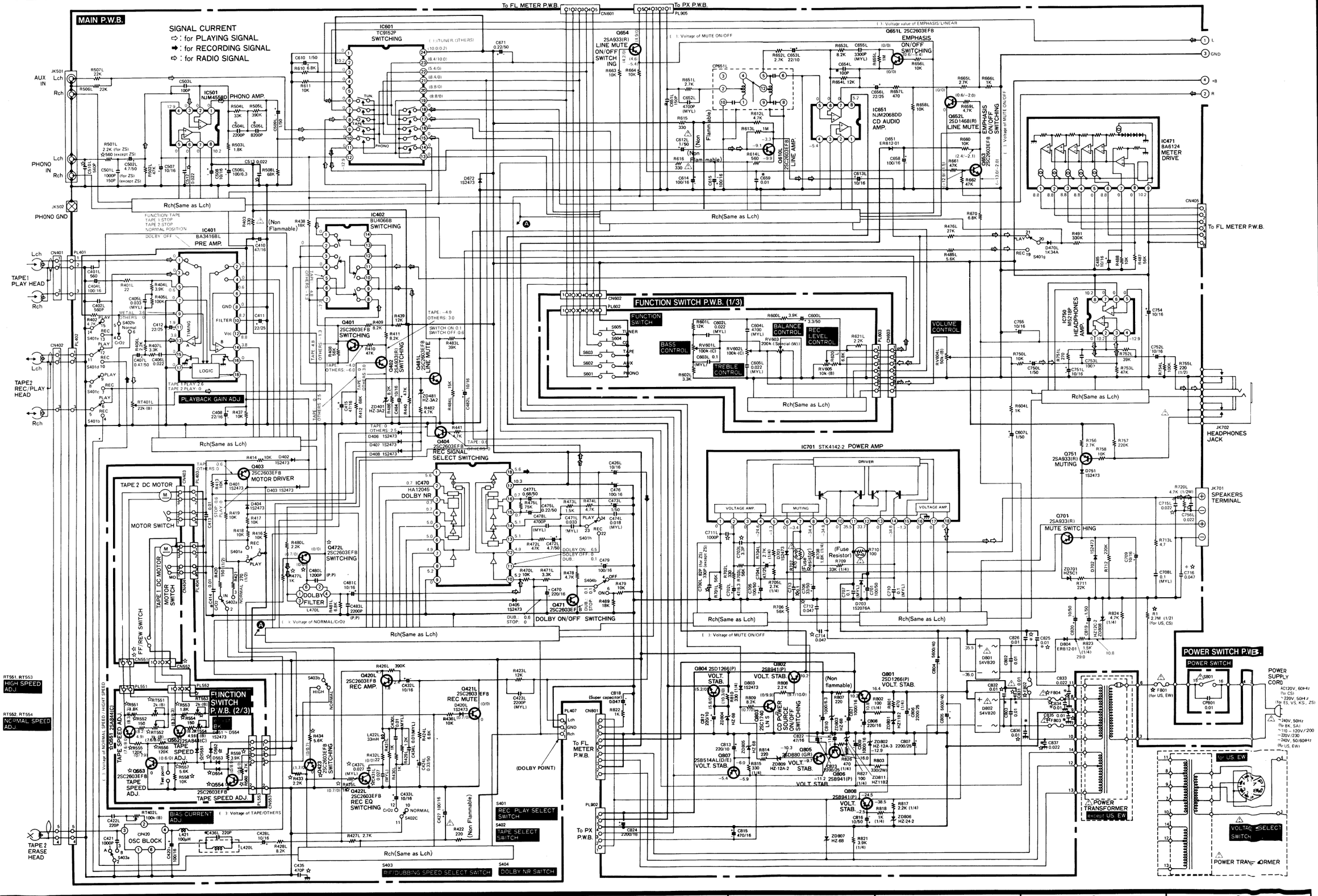
※ Axial lead cylindrical ceramic capacitor.

※ Condensateur céramique cylindrique à conducteur axial.

The circuit symbol (☆) means difference for destination.

Le symbol de circuit (☆) signifie gwil sagit des différence pour destination.

(Refer to the table in page 30, 31)



PRINTED WIRING BOARD
PLAN DE BASE

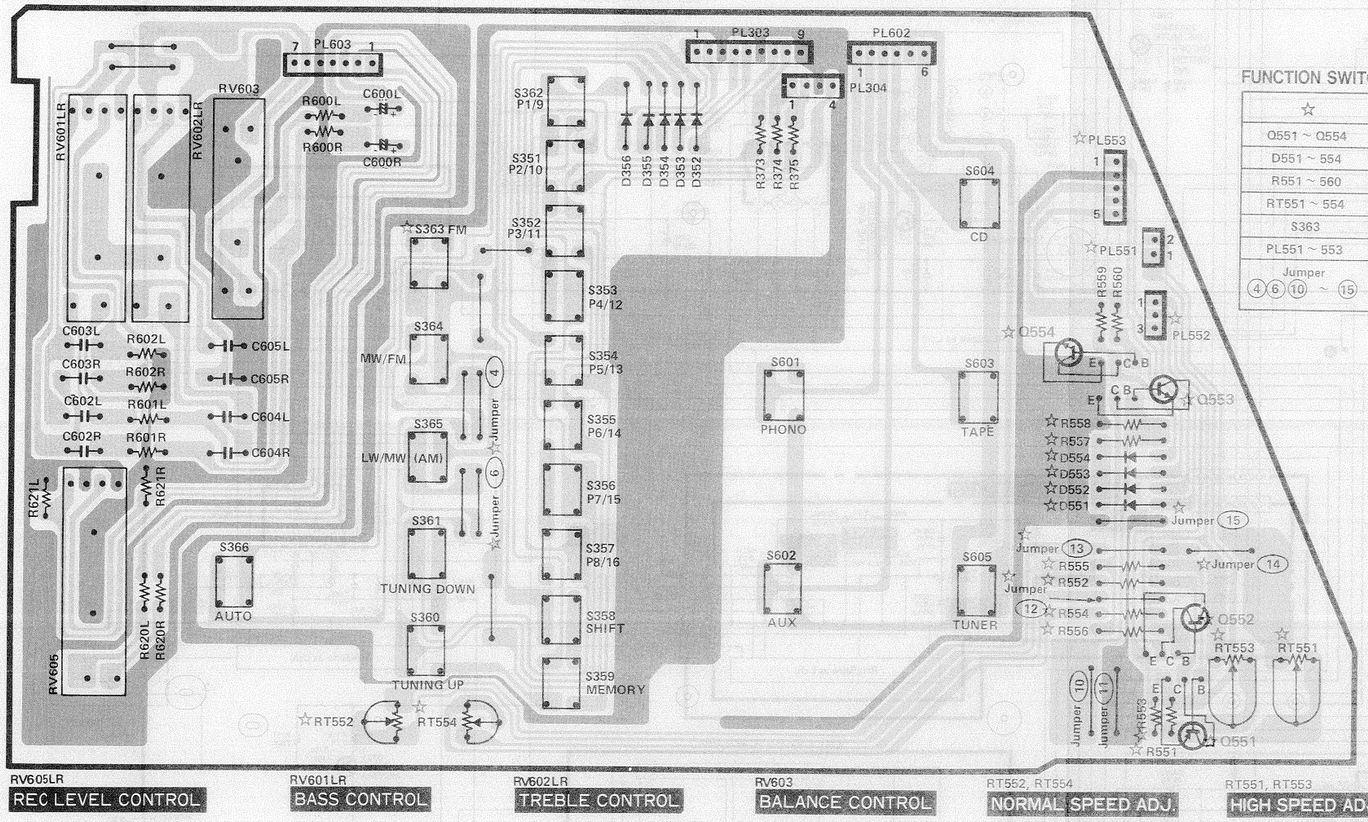
[: Earth , : Others]

※ Axial lead cylindrical ceramic capacitor.
※ Condensateur céramique cylindrique à conducteur axial.

The circuit symbol (☆) means difference for destination.
Le symbol de circuit (☆) signifie gwil sagit des différence pour destination.

(Refer to the table in page 28, 29)

FUNCTION SWITCH P.W.B.



FUNCTION SWITCH P.W.B.			
☆	ES, VS	BK	KS, ZS, SA, US, CS, EW
Q551 ~ Q554	USE	–	USE
D551 ~ 554	USE	–	USE
R551 ~ 560	USE	–	USE
RT551 ~ 554	USE	–	USE
S363	USE	USE	–
PL551 ~ 553	USE	–	USE
Jumper 4 6 10 ~ 15	USE	–	USE

FL METER P.W.B.				
☆	ES, VS, BK	KS, SA, EW	US, CS	ZS
Q353, 354	USE	–	–	–
D357	USE	USE	–	USE
C354 ~ 356	USE	–	–	–
R355 ~ 358	USE	–	–	–
Jumper 31	USE	–	–	–
Jumper 46	USE	–	–	–
Jumper 52	USE	–	–	–
Jumper 53	–	USE	USE	USE

Q551, Q552		
E	NORMAL:	8.3
	HIGH:	8.3
C	NORMAL:	8.2
	HIGH:	4.9
B	NORMAL:	7.9
	HIGH:	8.0

Q553	
E	0
C	NORMAL: 0
	HIGH: 7.9
B	NORMAL: 0.6
	HIGH: 0

Q554	
E	0
C	TAPE: 0
	OTHERS: 8.9
B	TAPE: 0.6
	OTHERS: 0

RV605LR
REC LEVEL CONTROL

RV601LR
BASS CONTROL

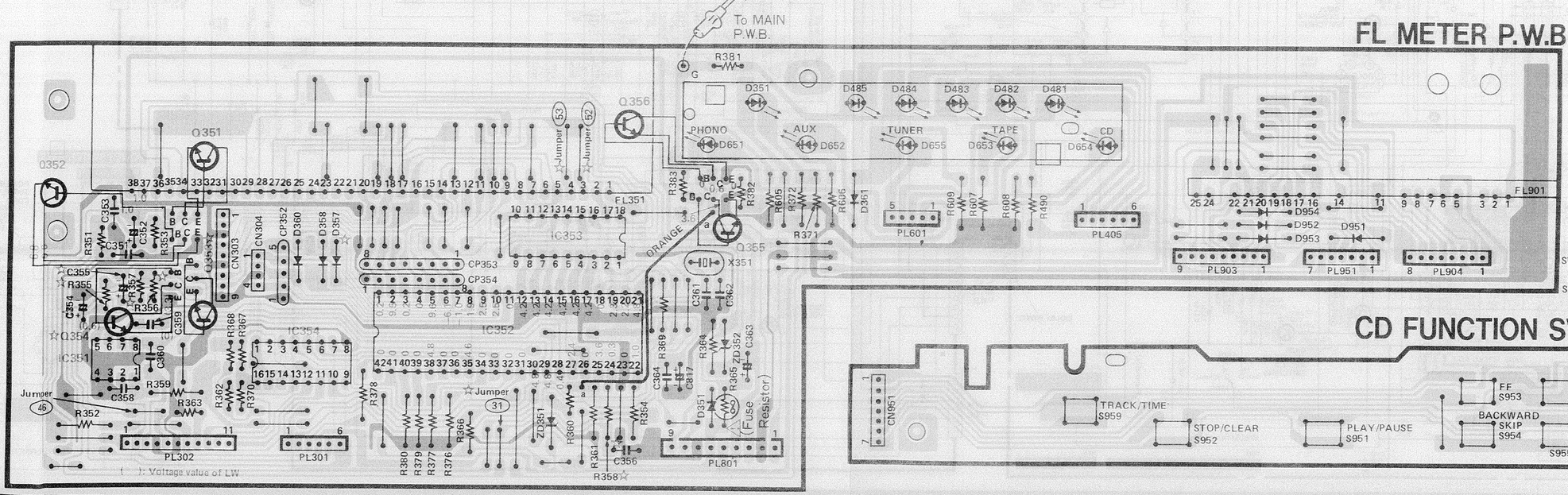
RV602LR
TREBLE CONTROL

RV603
BALANCE CONTROL

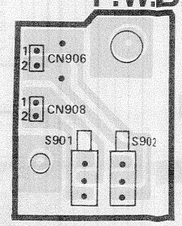
RT552, RT554
NORMAL SPEED ADJ.

RT551, RT553
HIGH SPEED ADJ.

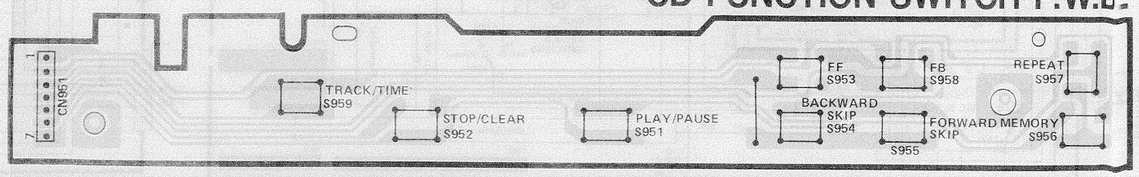
FL METER P.W.B.



LASER/OPEN SWITCH P.W.B.



CD FUNCTION SWITCH P.W.B.

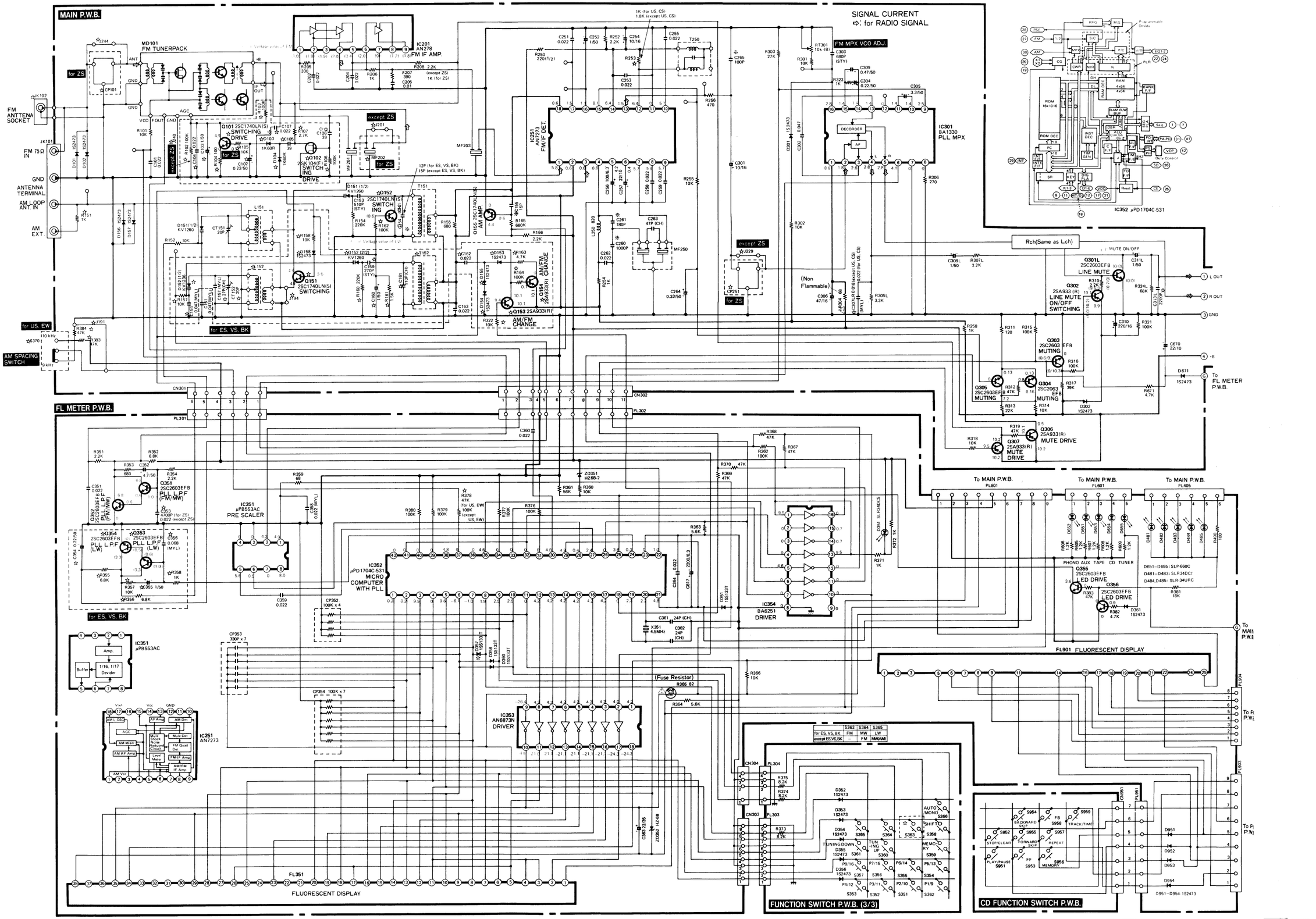


CIRCUIT DIAGRAM · PLAN DE CIRCUIT

[■■■ : +B, ——— : −B]

※ Axial lead cylindrical ceramic capacitor.
※ Condensateur céramique cylindrique à conducteur axial.

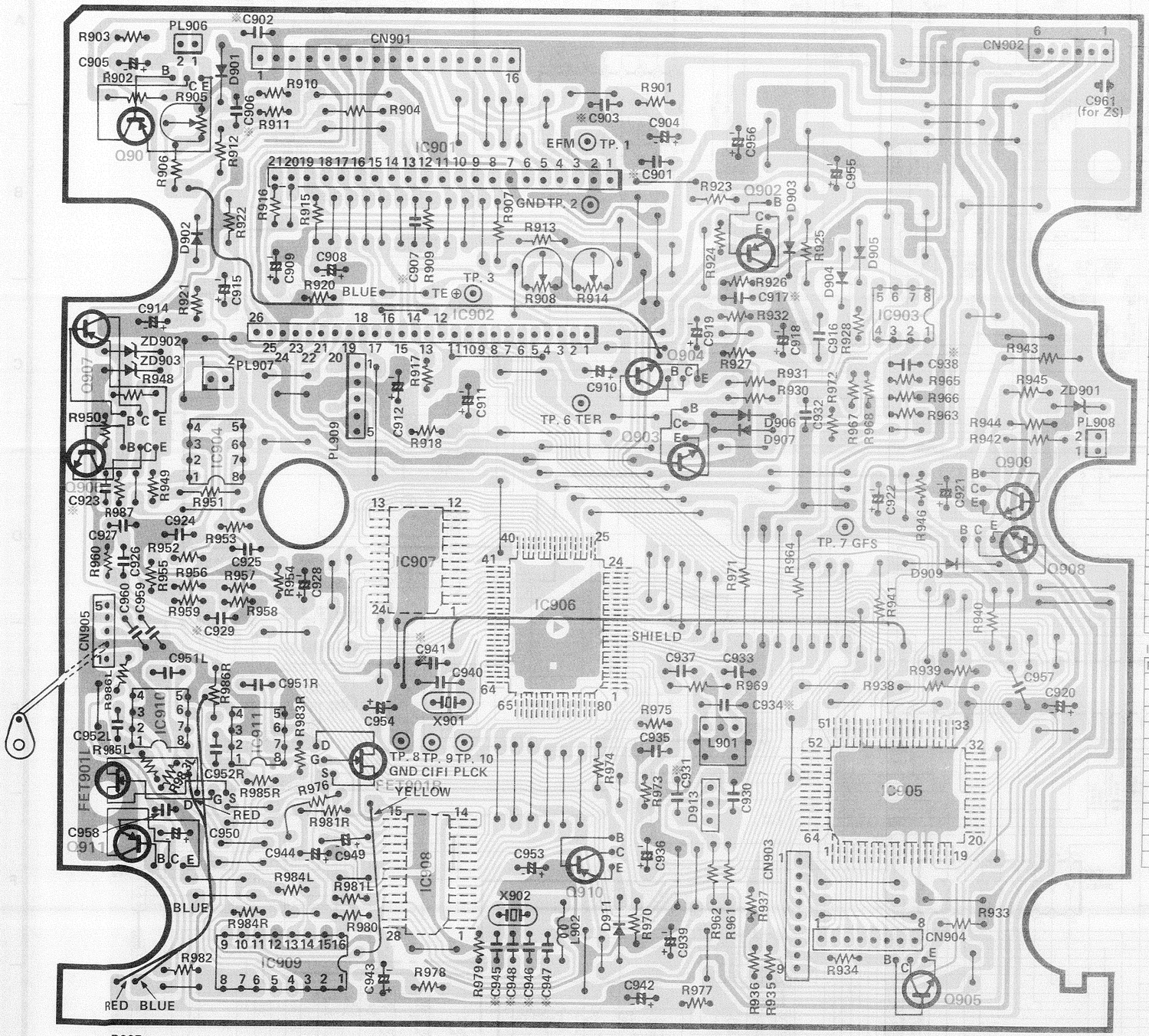
(Refer to the table in page 30, 31)



PRINTED WIRING BOARD · PLAN DE BASE 〔 : Earth , : Others 〕

※ Axial lead cylindrical ceramic capacitor.
※ Condensateur céramique cylindrique à conducteur axial. (Refer to the table in page 28, 29)

PX P.W.B.



IC905

Pin No.	voltage	Pin No.	voltage	Pin No.	voltage	Pin No.	voltage
1	0.8	17		33		49	5.0
2	0.8	18		34		50	5.0
3	0.8	19		35	5.0	51	5.0
4	0.8	20		36	5.0	52	5.0
5	0.8	21		37		53	−10.0
6	0.8	22		38		54	
7	0.8	23		39	0	55	5.0
8	0	24		40	0	56	5.0
9	0	25		41		57	5.0
10	0	26	5.0	42	0	58	
11		27	0	43	0	59	0.5
12	0	28	0	44	5.0	60	0.5
13	0	29		45	2.5	61	0.5
14	0	30		46		62	
15	0	31	0	47	0	63	
16	0	32	5.0	48	5.0	64	

IC901

Pin No.	voltage	Pin No.	voltage
1	0	12	0
2	0	13	0
3	0	14	4.8
4	0	15	0
5	0	16	4.4
6	0	17	0
7	0	18	−5.0
8	0	19	−5.0
9	0	20	5.0
10	0	21	5.0
11	0		

IC906

Pin No.	voltage	Pin No.	voltage	Pin No.	voltage	Pin No.	voltage
1	0	21		41	2.5	61	
2	0	22		42	2.5	62	4.0
3	0	23	0	43	2.5	63	
4	0	24	0	44	2.5	64	
5	4.4	25	2.5	45	2.5	65	
6		26		46	2.5	66	
7	4.6	27		47	2.5	67	
8	2.5	28	0	48	2.5	68	
9	2.5	29	2.5	49	2.5	69	
10	0	30	2.5	50	2.5	70	2.2
11	2.5	31	2.5	51	2.5	71	
12	0	32	2.5	52	0	72	
13	5.0	33	5.0	53		73	5.0
14	5.0	34	2.5	54		74	
15	5.0	35	2.5	55		75	
16	5.0	36	2.5	56		76	2.5
17	5.0	37	2.5	57		77	2.5
18	5.0	38	2.5	58	0	78	0
19	5.0	39	2.5	59	0	79	2.5
20	0	40	2.5	60		80	2.5

IC902

Pin No.	voltage	Pin No.	voltage
1	5.0	14	0
2	−5.0	15	0
3	0	16	0
4	0	17	0
5	5.0	18	−10.0
6	5.0	19	0
7	5.0	20	10.0
8	5.0	21	0
9	5.0	22	0
10	5.0	23	0
11	5.0	24	0
12	0	25	0
13	0	26	0

IC907

Pin No.	voltage	Pin No.	voltage
1	2.5	13	2.5
2	2.5	14	2.5
3	2.5	15	2.5
4	2.5	16	2.5
5	2.5	17	2.5
6	2.5	18	2.5
7	2.5	19	2.5
8	2.5	20	2.5
9	2.5	21	2.5
10	2.5	22	2.5
11	2.5	23	2.5
12	0	24	5.0

IC908

Pin No.	voltage	Pin No.	voltage
1	−5.0	15	−3.4
2	−5.0	16	−3.5
3	0	17	0
4	5.0	18	0
5	−5.0	19	
6	2.5	20	−5.0
7	2.5	21	0
8	2.5	22	0
9	2.5	23	−3.3
10	0	24	1.4
11	3.0	25	−1.0
12	2.5	26	−1.3
13	0	27	−1.3
14	−5.0	28	0

Pin No.	IC903 voltage	IC904 voltage
1	0	0
2	2.6	0
3	2.6	0
4	−5.0	−10.0
5	0	0
6	0.7	0
7	−4.0	0
8	5.0	10.0

IC909

Pin No.	voltage	Pin No.	voltage
1	0	9	0.7
2	0	10	−4.4
3	0	11	0.7
4	0	12	0
5	0	13	0
6	−5.0	14	0
7	−5.0	15	0
8	−5.0	16	5.0

Pin No.	IC910 voltage	IC911 voltage
1	0	0
2	0	0
3	0	0
4	−5.0	−5.0
5	0	0
6	0	0
7	1.4	0
8	5.0	5.0

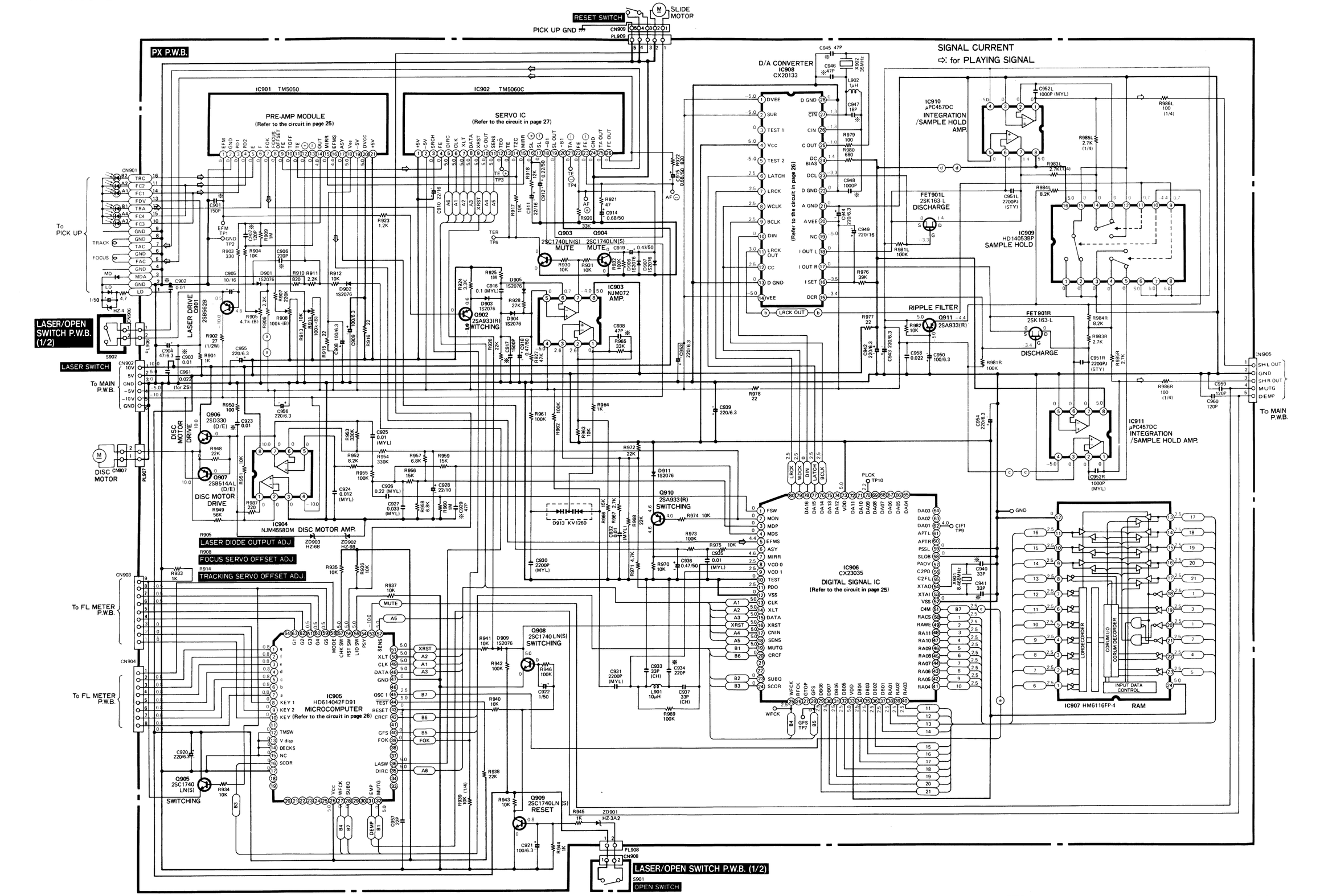
	FET901L	FET901R
S	0	0
D	1.4	0
G	−3.3	−3.4

	Q901	Q902	Q903	Q904	Q906	Q907	Q908	Q909	Q910	Q911
E	0.5	0.6	0	0	0	0	0	0	4.6	−4.4
C	−10.0	−5.0	0	0	10.0	−10.0	5.0		4.6	−5.0
B	4.8	0			0	0	0	0.8	4.0	−5.0

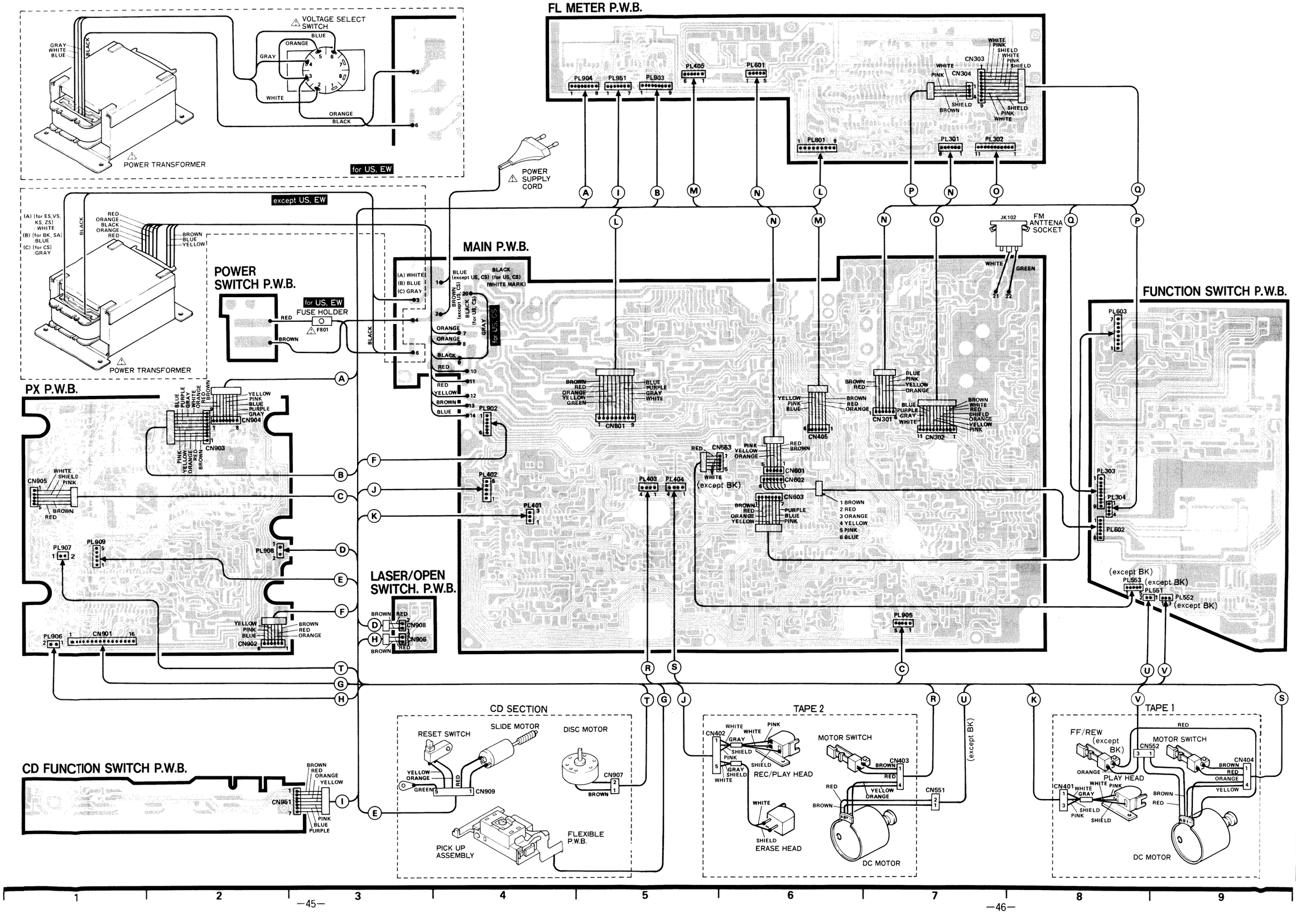
CIRCUIT DIAGRAM · PLAN DE CIRCUIT

[■■■ : +B, ■■■ : −B]

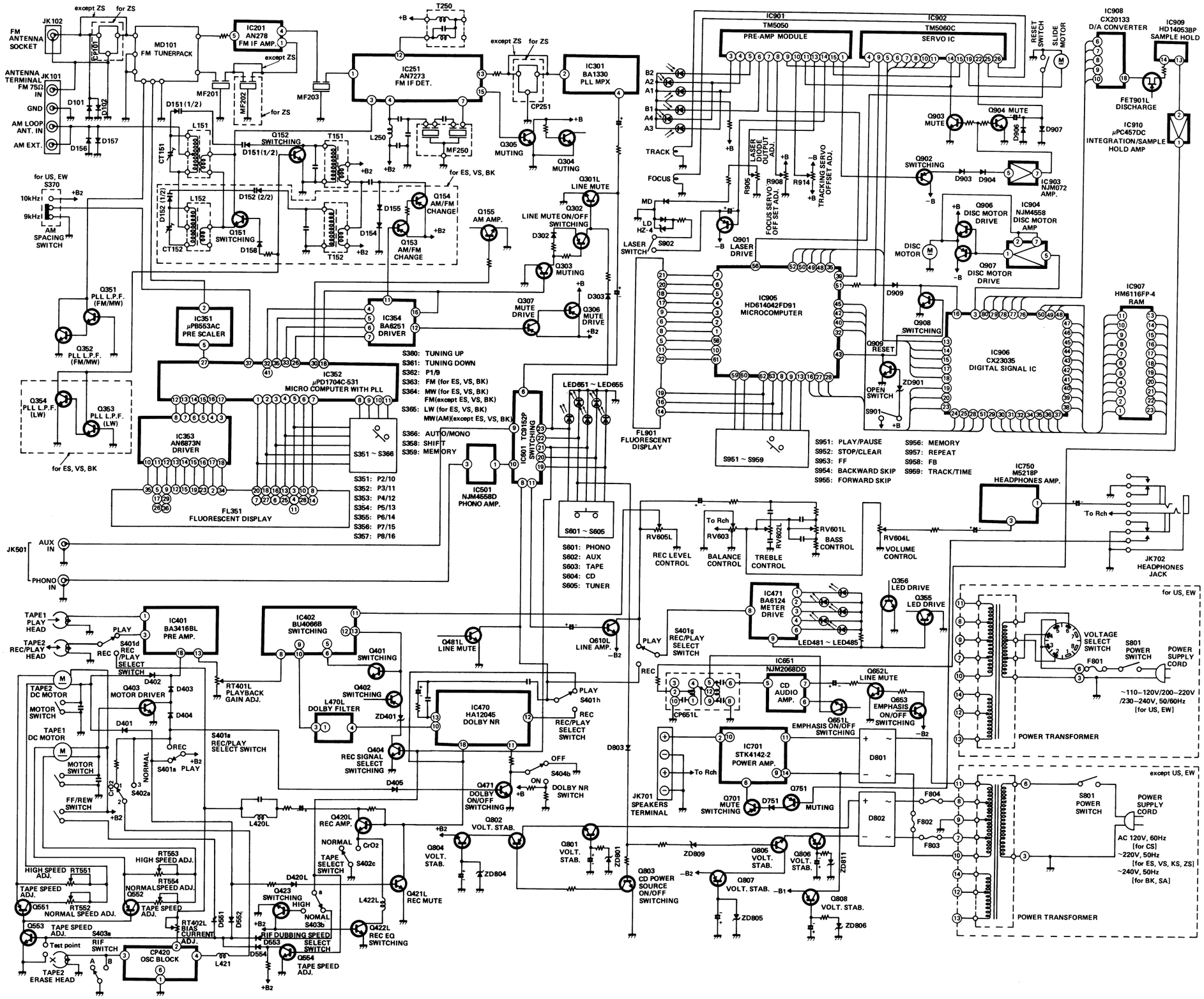
※ Axial lead cylindrical ceramic capacitor.
※ Condensateur céramique cylindrique à conducteur axial.



WIRING DIAGRAM · SCHEMA DE CÂBLAGE

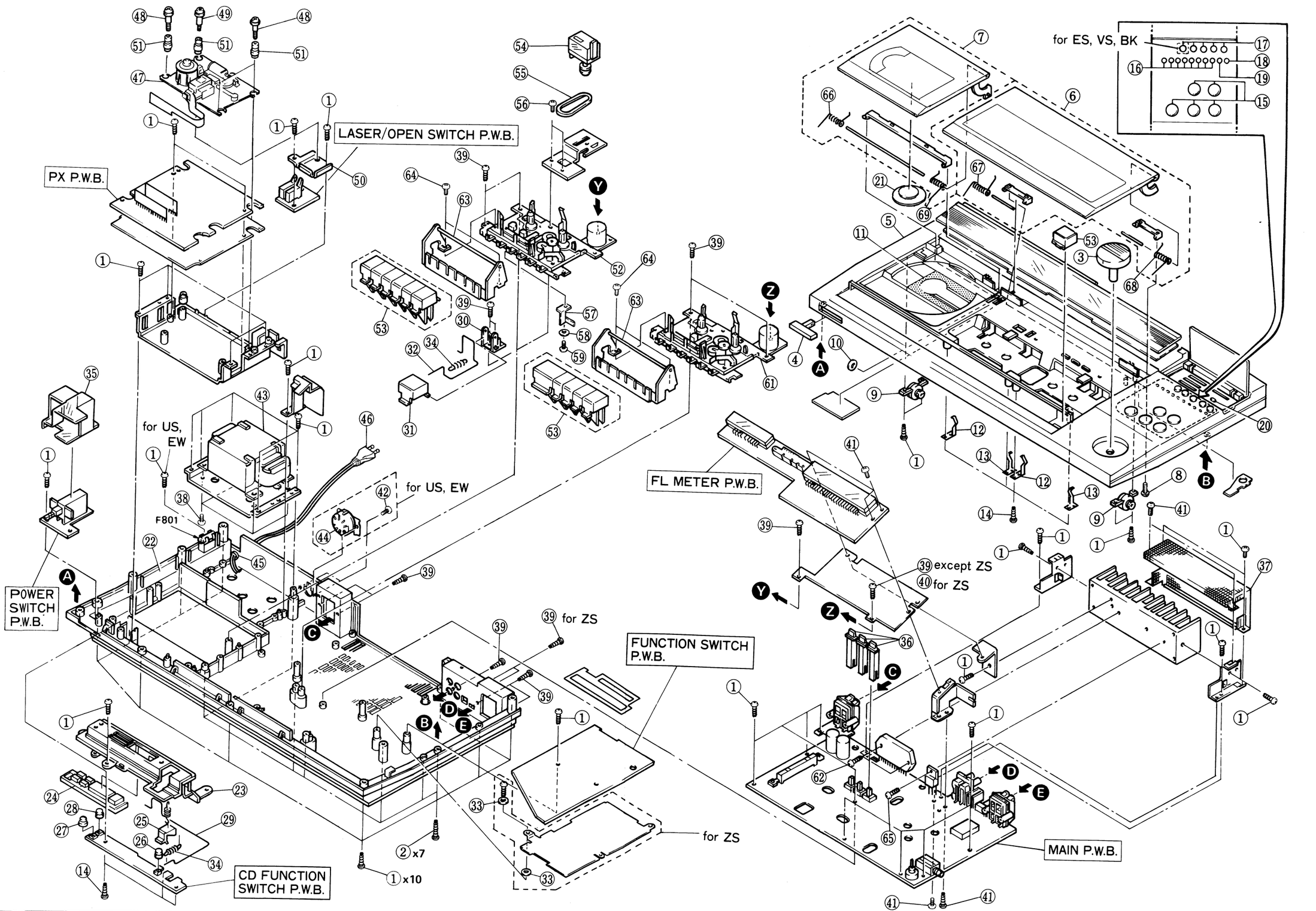


BLOCK DIAGRAM · SCHÉMA



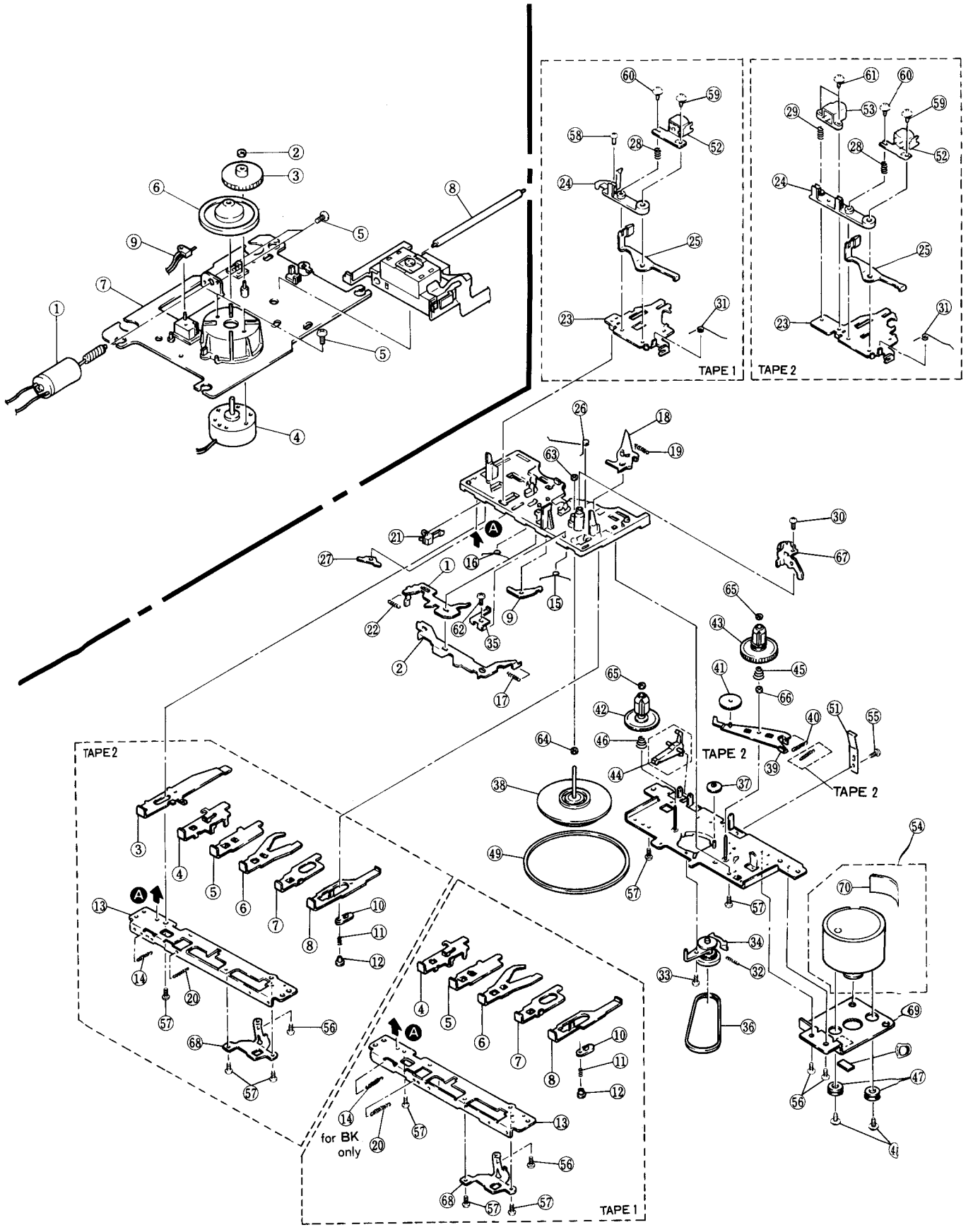
EXPLODED VIEW · VUE EXPLOSEE
(Cabinet) (Coffret)

- Nos. are reference Nos. of parts list.
- Ces numeros correspondent a la liste des pieces.



EXPLODED VIEW
(Cassette Chassis) (Unit mechanism)
VUE EXPLOSEE
(Chasis de Cassette)(Mèchanisme de barre)

- Nos. are reference Nos. of parts list.
- Ces numeros correspondent a la liste des pieces.



REPLACEMENT PARTS LIST
TABLEAU DES PIÈCES

CC: Cylindrical ceramic EL: Electrolytic NF: Non flammable
CD: Ceramic discal FR: Fuse resistor PP: Polypro-pylene
CF: Carbon film MO:Metal oxide ST: Styrol
CO: Composition MF: Mylar film

CAPACITORS

SYMBOL No.	PART No.	DESCRIPTION
C101	02441732	CD 0.022 μF +80% −20% 50V
C102	0252455	EL 0.22 μF ±20% 50V (for ZS)
C103	0252459	EL 1 μF ±20% 50V (for ZS)
C104	02441732	CD 0.022 μF +80% −20% 50V (for ZS)
C105	0230626	CC 39PF ±5% 50V (for ZS)
C106	0230626	CC 39PF ±5% 50V (for ZS)
C107	0209173	CD 0.022 μF +80% −20% 50V (for ZS)
C108	02760112	MF 0.1 μF ±10% 50V
C151	02750152	MF 0.047 μF ±10% 50V
C153	1279326	PP 510PF ±2% 100V
C154	0230654	CC 12PF ±5% 50V (for ES, VS, BK)
C154	0230656	CC 15PF ±5% 50V (except ES, VS, BK)
C155	0230616	CC 15PF ±5% 50V
C156	02750152	MF 0.047 μF ±10% 50V (for ES, VS, BK)
C157	1246450	MF 27PF ±5% 50V (for ES, VS, BK)
C159	0228321	ST 270PF ±5% 50V (for ES, VS, BK)
C160	0252459	EL 1 μF ±20% 50V (for ES, VS, BK)
C161	1246465	CD 110PF ±5% 50V (for ES, VS, BK)
C162	02441732	CD 0.022 μF +80% −20% 50V (for ES, VS, BK)
C163	02441732	CD 0.022 μF +80% −20% 50V
C202	02441732	CD 0.022 μF +80% −20% 50V
C204	02441732	CD 0.022 μF +80% −20% 50V
C205	02441712	CD 0.01 μF +80% −20% 50V
C251	02441732	CD 0.022 μF +80% −20% 50V
C252	1252459	EL 1 μF ±20% 50V
C253	02441732	CD 0.022 μF +80% −20% 50V
C254	0252422	EL 10 μF ±20% 16V
C255	02441732	CD 0.022 μF +80% −20% 50V
C256	0252402	EL 100 μF ±20% 6.3V
C257	0252411	EL 22 μF ±20% 10V
C258	02441732	CD 0.022 μF +80% −20% 50V
C259	02441732	CD 0.022 μF +80% −20% 50V
C260	0240045	CC 1000PF ±10% 50V
C261	0240036	CC 180PF ±10% 50V
C262	02441732	CD 0.022 μF +80% −20% 50V
C263	1246456	CD 47PF ±5% 50V
C264	0252456	EL 0.33 μF ±20% 50V
C265	0240033	CC 100PF ±10% 50V
C301	0252422	EL 10 μF ±20% 16V
C302	1244185	CD 0.047 μF +80% −20% 50V
C303	02684482	ST 680PF ±5% 100V
C304	0252455	EL 0.22 μF ±20% 50V
C305	0252461	EL 3.3 μF ±20% 50V
C306	1252425	EL 47 μF ±20% 16V
C307LR	02750322	MF 0.018 μF ±10% 50V (except US, CS)
C307LR	02750132	MF 0.022 μF ±10% 50V (for US, CS)
C308L	1252459	EL 1 μF ±20% 50V
C308R	0252459	EL 1 μF ±20% 50V
C309	0252457	EL 0.47 μF ±20% 50V
C310	1252427	EL 220 μF ±20% 16V
C311LR	0252459	EL 1 μF ±20% 50V
C313LR	0209733	CD 2200PF ±10% 50V (for ZS)
C351	1244173	CD 0.022 μF +80% −20% 50V
C352	1252271	EL 4.7 μF ±20% 50V
C353	0249735	CD 4700PF ±10% 50V (for ZS)
C353	1275013	MF 0.022 μF ±10% 50V (except ZS)
C354	1252269	EL 0.22 μF ±20% 50V (for ES, VS, BK)
C355	1252252	EL 1 μF ±20% 50V (for ES, VS, BK)
C356	1275016	MF 0.068 μF ±10% 50V (for ES, VS, BK)
C358	1275013	MF 0.022 μF ±10% 50V
C359	1244173	CD 0.022 μF +80% −20% 50V
C360	1244173	CD 0.022 μF +80% −20% 50V
C361	1246449	CD 24PF ±5% 50V
C362	1246449	CD 24PF ±5% 50V
C363	1252722	EL 22 μF ±20% 35V
C364	1244173	CD 0.022 μF +80% −20% 50V
C401LR	02097242	CD 560PF ±10% 50V
C402LR	02097242	CD 560PF ±10% 50V
C404LR	0252426	EL 100 μF ±20% 16V
C405LR	02750142	MF 0.033 μF ±10% 50V
C406LR	02441732	CD 0.022 μF +80% −20% 50V
C407LR	1252805	EL 0.47 μF ±20% 50V
C408	1252277	EL 22 μF ±20% 16V
C410	1252255	EL 47 μF ±20% 16V
C411	1252272	EL 22 μF ±20% 25V
C412	1252272	EL 22 μF ±20% 25V
C413	02441712	CD 0.01 μF +80% −20% 50V
C414	0240061	CC 0.01 μF ±30% 16V
C415	1252255	EL 47 μF ±20% 16V
C420	0252426	EL 100 μF ±20% 16V
C421	02097312	CD 1000PF ±10% 50V
C422LR	0208692	CD 220PF ±5% 50V
C423LR	0274013	MF 2200PF ±10% 50V
C424LR	1252268	EL 0.33 μF ±20% 50V
C426LR	1252251	EL 10 μF ±20% 16V
C427	1252265	EL 100 μF ±20% 16V
C428LR	1252251	EL 10 μF ±20% 16V
C430LR	02750112	MF 0.01 μF ±10% 50V
C431LR	0275033	MF 0.027 μF ±10% 50V (for BK)
C432LR	1252251	EL 10 μF ±20% 16V
C433LR	1252251	EL 10 μF ±20% 16V
C434LR	02750112	MF 0.01 μF ±10% 50V
C435	0240041	CC 470PF ±10% 50V (for ZS)
C436LR	0240037	CC 220PF ±10% 50V
C437LR	0275033	MF 0.027 μF ±10% 50V (except BK)
C470	0252427	EL 220 μF ±20% 16V
C471LR	02750142	MF 0.033 μF ±10% 50V
C472LR	0252462	EL 4.7 μF ±20% 50V
C473LR	1252252	EL 1 μF ±20% 50V
C474LR	1275232	MF 0.018 μF ±5% 50V
C475LR	0252455	EL 0.22 μF ±20% 50V
C476	1252265	EL 100 μF ±20% 16V
C477LR	1252458	EL 0.68 μF ±20% 50V
C478LR	1274215	MF 4700PF ±5% 50V
C479	1252265	EL 100 μF ±20% 16V
C480LR	0268441	PP 1200PF ±5% 100V (except BK)
C481LR	1252251	EL 10 μF ±20% 16V
C482LR	1252251	EL 10 μF ±20% 16V
C483LR	0279331	PP 2200PF ±5% 100V
C484	0252422	EL 10 μF ±20% 16V
C485	1252251	EL 10 μF ±20% 16V
C501LR	02097312	CD 1000PF ±10% 50V (for ZS)
C501LR	1248688	CD 150PF ±5% 50V (except ZS)
C502L	0252462	EL 4.7 μF ±20% 50V
C502R	1252462	EL 4.7 μF ±20% 50V
C503LR	1248684	CD 100PF ±5% 50V
C504LR	0240053	CC 2200PF ±20% 16V
C505LR	0240060	CC 8200PF ±20% 16V
C506LR	0252402	EL 100 μF ±20% 6.3V
C507	0252422	EL 10 μF ±20% 16V
C508	0252422	EL 10 μF ±20% 16V
C509LR	0252459	EL 1 μF ±20% 50V
C510LR	0249724	CD 560PF ±10% 50V (for ZS)
C512	1239405	CD 0.022 μF +80% −20% 50V (for ZS)
C513	0209173	CD 0.022 μF +80% −20% 50V (for ZS)
C600LR	0252461	EL 3.3 μF ±20% 50V
C602LR	02750132	MF 0.022 μF ±10% 50V
C603LR	02760112	MF 0.1 μF ±10% 50V
C604LR	02740152	MF 4700PF ±10% 50V
C605LR	02750132	MF 0.022 μF ±10% 50V
C607LR	0252459	EL 1 μF ±20% 50V
C610	1252252	EL 1 μF ±20% 50V
C612LR	1252252	EL 1 μF ±20% 50V
C613LR	1252251	EL 10 μF ±20% 16V
C614	1252265	EL 100 μF ±20% 16V
C615	1252265	EL 100 μF ±20% 16V
C651LR	0240035	CC 150PF ±10% 50V
C652LR	02740152	MF 4700PF ±10% 50V
C653LR	0252411	EL 22 μF ±20% 10V
C654LR	0240033	CC 100PF ±10% 50V
C655LR	02740142	MF 3300PF ±10% 50V
C656LR	1252272	EL 22 μF ±20% 25V
C658	0252426	EL 100 μF ±20% 16V
C659	0240061	CC 0.01 μF ±30% 16V
C670	0252411	EL 22 μF ±20% 10V
C671	1252455	EL 0.22 μF ±20% 50V
C700LR	0240039	CC 330PF ±10% 50V (except ZS)
C700LR	0230034	CC 82PF ±5% 50V (for ZS)
C701	1252467	EL 100 μF ±20% 50V
C702L	0252401	EL 47 μF ±20% 6.3V

SYMBOL No.	PART No.	DESCRIPTION
C702R	1252401	EL 47 μF ±20% 6.3V
C703LR	0230606	CC 3.3PF ±10% 50V (except ZS)
C704L	0252436	EL 47 μF ±20% 25V
C704R	1252436	EL 47 μF ±20% 25V
C705	1252467	EL 100 μF ±20% 50V
C706	1252465	EL 33 μF ±20% 50V
C707	02760112	MF 0.1 μF ±10% 50V
C708LR	02760112	MF 0.1 μF ±10% 50V
C709	0252422	EL 10 μF ±20% 16V
C710	02760112	MF 0.1 μF ±10% 50V (except ZS)
C710	1276011	MF 0.1 μF ±10% 50V (for ZS)
C711LR	02097312	CD 1000PF ±10% 50V (for ZS)
C712	0244175	CD 0.047 μF +80% −20% 50V (for ZS)
C713	0244181	CD 0.1 μF +80% −20% 50V (for ZS)
C714	0244175	CD 0.047 μF +80% −20% 50V (for ZS)
C715LR	1239405	CD 0.022 μF +80% −20% 50V (for ZS)
C716	0244175	CD 0.047 μF +80% −20% 50V (for ZS)
C750LR	0252459	EL 1 μF ±20% 50V
C751L	1252422	EL 10 μF ±20% 16V
C751R	0252422	EL 10 μF ±20% 16V
C752LR	0252422	EL 10 μF ±20% 16V
C753LR	1248684	CD 100PF ±5% 50V
C754	0252422	EL 10 μF ±20% 16V
C755	1252422	EL 10 μF ±20% 16V
C756LR	0209173	CD 0.022 μF +80% −20% 50V (for ZS)
C802	0245408	CD 0.01 μF ±20% 500V
C803	0245408	CD 0.01 μF ±20% 500V
C804	0259933	EL 5600 μF ±20% 40V
C805	0259933	EL 5600 μF ±20% 40V
C806	0259840	EL 2200 μF ±20% 25V
C807	0259840	EL 2200 μF ±20% 25V
C808	0252427	EL 220 μF ±20% 16V
C809	0252541	EL 1000 μF ±20% 16V
C810	1252406	EL 1000 μF ±20% 6.3V
C812	0252415	EL 220 μF ±20% 10V
C813	0252415	EL 220 μF ±20% 10V
C815	1252429	EL 470 μF ±20% 16V
C816	0252463	EL 10 μF ±20% 50V
C817	0252407	EL 2200 μF ±20% 6.3V
C818	0259891	Super capacitor 0.047 μF
C819	0252459	EL 1 μF ±20% 50V
C820	0252463	EL 10 μF ±20% 50V
C821	1252430	EL 1000 μF ±20% 16V
C822	02525252	EL 47 μF ±20% 16V
C823	1259840	EL 2200 μF ±20% 25V
C824	1252431	EL 2200 μF ±20% 16V
C825	02441712	CD 0.01 μF +80% −20% 50V (for ZS)
C826	02441712	CD 0.01 μF +80% −20% 50V (for ZS)
C831	02441712	CD 0.01 μF +80% −20% 50V (for ZS)

SYMBOL No.	PART No.	DESCRIPTION
C832	02441712	CD 0.01 μF +80% −20% 50V (for ZS)
C833	02441732	CD 0.022 μF +80% −20% 50V (for ZS)
C834	0209737	CD 0.01 μF ±10% 50V (for ZS)
C835	1239404	CD 0.01 μF +80% −20% 50V (for ZS)
C836	0209737	CD 0.01 μF ±10% 50V (for ZS)
C837	02441732	CD 0.022 μF +80% −20% 50V (for ZS)
C901	0240035	CC 150PF ±10% 50V
C902	0240061	CC 0.01 μF ±30% 16V
C903	0240061	CC 0.01 μF ±30% 16V
C904	02522252	EL 47 μF ±20% 6.3V
C905	1252521	EL 10 μF ±20% 16V
C906	0240037	CC 220PF ±10% 50V
C907	0240034	CC 120PF ±10% 50V
C908	0252402	EL 100 μF ±20% 6.3V
C909	0252402	EL 100 μF ±20% 6.3V
C910	02525222	EL 22 μF ±20% 16V
C911	02525222	EL 22 μF ±20% 16V
C912	0252802	EL 0.22 μF ±20% 50V
C914	02528072	EL 0.68 μF ±20% 50V
C915	02528072	EL 0.68 μF ±20% 50V
C916	02760112	MF 0.1 μF ±10% 50V
C917	0240051	CC 1500PF ±20% 16V
C918	02528052	EL 0.47 μF ±20% 50V
C919	02528052	EL 0.47 μF ±20% 50V
C920	0252403	EL 220 μF ±20% 6.3V
C921	1252402	EL 100 μF ±20% 6.3V
C922	02528112	EL 1 μF ±20% 50V
C923	0240061	CC 0.01 μF ±30% 16V
C924	0275031	MF 0.012 μF ±10% 50V
C925	1275011	MF 0.01 μF ±10% 50V
C926	1276013	MF 0.22 μF ±10% 50V
C927	1275014	MF 0.033 μF ±10% 50V
C928	02523222	EL 22 μF ±20% 10V
C929	0230628	CC 47PF ±5% 50V
C930	02740132	MF 2200PF ±10% 50V
C931	02740132	MF 2200PF ±10% 50V
C932	02750112	MF 0.01 μF ±10% 50V
C933	1246452	CD 33PF ±5% 50V
C934	0240037	CC 220PF ±10% 50V
C935	02750112	MF 0.01 μF ±10% 50V
C936	1252805	EL 0.47 μF ±20% 50V
C937	1246452	CD 33PF ±5% 50V
C938	0230628	CC 47PF ±5% 50V
C939	1252403	EL 220 μF ±20% 6.3V
C940	0230624	CC 33PF ±5% 50V
C941	0230624	CC 33PF ±5% 50V
C942	1252403	EL 220 μF ±20% 6.3V
C943	1252403	EL 220 μF ±20% 6.3V
C944	0252403	EL 220 μF ±20% 6.3V
C945	0230628	CC 47PF ±5% 50V
C946	0230628	CC 47PF ±5% 50V
C947	0230618	CC 18PF ±5% 50V
C948	0240045	CC 1000PF ±10% 50V
C949	1252427	EL 220 μF ±20% 16V
C950	1252402	EL 100 μF ±20% 6.3V

SYMBOL No.	PART No.	DESCRIPTION
C951LR	0228343	ST 2200PF ±5% 50V
C952L	02740112	MF 1000PF ±10% 50V
C952R	1274011	MF 1000PF ±10% 50V
C953	0252403	EL 220 μF ±20% 6.3V
C954	1252403	EL 220 μF ±20% 6.3V
C955	0252403	EL 220 μF ±20% 6.3V
C956	0252403	EL 220 μF ±20% 6.3V
C957	02486682	CD 22PF ±5% 50V
C958	02441732	CD 0.022 μF +80% −20% 50V
C959	02486862	CD 120PF ±5% 50V
C960	02486862	CD 120PF ±5% 50V
C961	02441732	CD 0.022 μF +80% −20% 50V (for ZS)

RESISTORS

SYMBOL No.	PART No.	DESCRIPTION
R1	0139005	CO 2.7MΩ ±10% RC1/2GF (for US, CS)
R101	0113639	CF 10KΩ ±5% SRD1/6P
R102	0113663	CF 100KΩ ±5% SRD1/6P (for ZS)
R103	0113663	CF 100KΩ ±5% SRD1/6P (for ZS)
R104	0113591	CF 100Ω ±5% SRD1/6P (for ZS)
R105	0113639	CF 10KΩ ±5% SRD1/6P (for ZS)
R106	0113663	CF 100KΩ ±5% SRD1/6P (for ZS)
R107	0113625	CF 2.7KΩ ±5% SRD1/6P (for ZS)
R151	0113615	CF 1KΩ ±5% SRD1/6P (except CS)
R151	0134373	CO 1KΩ ±10% RC1/2GF (for CS)
R152	0113639	CF 10KΩ ±5% SRD1/6P
R154	0113671	CF 220KΩ ±5% SRD1/6P
R155	0113611	CF 680Ω ±5% SRD1/6P
R157	0113639	CF 10KΩ ±5% SRD1/6P (for ES, VS, BK)
R158	0113639	CF 10KΩ ±5% SRD1/6P (for ES, VS, BK)
R160	0113671	CF 220KΩ ±5% SRD1/6P (for ES, VS, BK)
R161	0113619	CF 1.5KΩ ±5% SRD1/6P (for ES, VS, BK)
R162	0113663	CF 100KΩ ±5% SRD1/6P (for ES, VS, BK)
R163	0113631	CF 4.7KΩ ±5% SRD1/6P (for ES, VS, BK)
R164	0113663	CF 100KΩ ±5% SRD1/6P (for ES, VS, BK)
R165	0113683	CF 680KΩ ±5% SRD1/6P
R166	0113623	CF 2.2KΩ ±5% SRD1/6P
R205	0113603	CF 330Ω ±5% SRD1/6P
R206	0113615	CF 1KΩ ±5% SRD1/6P
R207	0113605	CF 390Ω ±5% SRD1/6P
R208	0113623	CF 2.2KΩ ±5% SRD1/6P (except ZS)
R208	0113615	CF 1KΩ ±5% SRD1/6P (for ZS)
R250	01132912	CF 220Ω ±5% SRD1/2P
R252	0113623	CF 2.2KΩ ±5% SRD1/6P

SYMBOL No.	PART No.	DESCRIPTION
R253	0113621	CF 1.8KΩ ±5% SRD1/6P (except US, CS)
R253	0113615	CF 1KΩ ±5% SRD1/6P (for US, CS)
R254	0113615	CF 1KΩ ±5% SRD1/6P
R255	0113639	CF 10KΩ ±5% SRD1/6P
R256	0113607	CF 470Ω ±5% SRD1/6P
R258	0113615	CF 1KΩ ±5% SRD1/6P
R301	0113639	CF 10KΩ ±5% SRD1/6P
R302	0113639	CF 10KΩ ±5% SRD1/6P
R303	0113649	CF 27KΩ ±5% SRD1/6P
⚠R304	1123619	NF 68Ω ±5% SRD1/4P
R305LR	0113627	CF 3.3KΩ ±5% SRD1/6P
R306	0113601	CF 270Ω ±5% SRD1/6P
R307LR	0113623	CF 2.2KΩ ±5% SRD1/6P
R310	0113623	CF 2.2KΩ ±5% SRD1/6P
R311	0113593	CF 120Ω ±5% SRD1/6P
R312	0113655	CF 47KΩ ±5% SRD1/6P
R313	0113647	CF 22KΩ ±5% SRD1/6P
R314	0113639	CF 10KΩ ±5% SRD1/6P
R315	0113663	CF 100KΩ ±5% SRD1/6P
R316	0113663	CF 100KΩ ±5% SRD1/6P
R317	0113653	CF 39KΩ ±5% SRD1/6P
R318	0113639	CF 10KΩ ±5% SRD1/6P
R319	0113655	CF 47KΩ ±5% SRD1/6P
R321	0113663	CF 100KΩ ±5% SRD1/6P
R322	0113639	CF 10KΩ ±5% SRD1/6P (for ES, VS, BK)
R323	0113615	CF 1KΩ ±5% SRD1/6P
R324LR	0113659	CF 68KΩ ±5% SRD1/6P
R351	0113623	CF 2.2KΩ ±5% SRD1/6P
R352	0113635	CF 6.8KΩ ±5% SRD1/6P
R353	0113611	CF 680Ω ±5% SRD1/6P
R354	0113623	CF 2.2KΩ ±5% SRD1/6P
R355	0113635	CF 6.8KΩ ±5% SRD1/6P (for ES, VS, BK)
R356	0113635	CF 6.8KΩ ±5% SRD1/6P (for ES, VS, BK)
R357	0113639	CF 10KΩ ±5% SRD1/6P (for ES, VS, BK)
R358	0113615	CF 1KΩ ±5% SRD1/6P (for ES, VS, BK)
R359	0113587	CF 68Ω ±5% SRD1/6P
R360	0113639	CF 10KΩ ±5% SRD1/6P
R361	0113657	CF 56KΩ ±5% SRD1/6P
R362	0113663	CF 100KΩ ±5% SRD1/6P
R363	0113633	CF 5.6KΩ ±5% SRD1/6P
R364	0113633	CF 5.6KΩ ±5% SRD1/6P
⚠R365	1110612	FR 82Ω ±5% RN1/4B
R366	0113639	CF 10KΩ ±5% SRD1/6P
R367	0113655	CF 47KΩ ±5% SRD1/6P
R368	0113655	CF 47KΩ ±5% SRD1/6P
R369	0113655	CF 47KΩ ±5% SRD1/6P
R370	0113655	CF 47KΩ ±5% SRD1/6P
R371	0113615	CF 1KΩ ±5% SRD1/6P
R372	0113615	CF 1KΩ ±5% SRD1/6P
R373	0113637	CF 8.2KΩ ±5% SRD1/6P
R374	0113637	CF 8.2KΩ ±5% SRD1/6P
R375	0113637	CF 8.2KΩ ±5% SRD1/6P
R376	0113663	CF 100KΩ ±5% SRD1/6P
R377	0113663	CF 100KΩ ±5% SRD1/6P

SYMBOL No.	PART No.	DESCRIPTION
R378	0113663	CF 100KΩ ±5% SRD1/6P (except US, EW)
R378	0113655	CF 47KΩ ±5% SRD1/6P (for US, EW)
R379	0113663	CF 100KΩ ±5% SRD1/6P
R380	0113663	CF 100KΩ ±5% SRD1/6P
R381	0113645	CF 18KΩ ±5% SRD1/6P
R382	0113631	CF 4.7KΩ ±5% SRD1/6P
R383	0113655	CF 47KΩ ±5% SRD1/6P [FL PWB]
R383	0113655	CF 47KΩ ±5% SRD1/6P (for US, CS, EW) [MA PWB]
R384	0113655	CF 47KΩ ±5% SRD1/6P (for US, EW)
R401LR	0113575	CF 22Ω ±5% SRD1/6P
R402	0113631	CF 4.7KΩ ±5% SRD1/6P
⚠R403	1123627	NF 330Ω ±5% SRD1/4P
R404LR	0113629	CF 3.9KΩ ±5% SRD1/6P
R405LR	0113663	CF 100KΩ ±5% SRD1/6P
R406LR	0113623	CF 2.2KΩ ±5% SRD1/6P
R407LR	0113627	CF 3.3KΩ ±5% SRD1/6P
R408	0113657	CF 56KΩ ±5% SRD1/6P
R409	0113637	CF 8.2KΩ ±5% SRD1/6P
R410	0113655	CF 47KΩ ±5% SRD1/6P
R411	0113637	CF 8.2KΩ ±5% SRD1/6P
R412	0113659	CF 68KΩ ±5% SRD1/6P
R413	0113639	CF 10KΩ ±5% SRD1/6P
R414	0113639	CF 10KΩ ±5% SRD1/6P
R416	0113639	CF 10KΩ ±5% SRD1/6P
R417	0113639	CF 10KΩ ±5% SRD1/6P
R418	0113639	CF 10KΩ ±5% SRD1/6P
R419	0113639	CF 10KΩ ±5% SRD1/6P
R420	01132892	CF 150Ω ±5% SRD1/2P
R421	01132922	CF 270Ω ±5% SRD1/2P
⚠R422	1123625	NF 220Ω ±5% SRD1/4P
R423LR	0113641	CF 12KΩ ±5% SRD1/6P
R424LR	0113635	CF 6.8KΩ ±5% SRD1/6P
R425LR	0113615	CF 1KΩ ±5% SRD1/6P (except BK)
R426LR	0113677	CF 390KΩ ±5% SRD1/6P
R427LR	0113625	CF 2.7KΩ ±5% SRD1/6P
R428LR	0113637	CF 8.2KΩ ±5% SRD1/6P
R429LR	0113617	CF 1.2KΩ ±5% SRD1/6P
R430LR	0113615	CF 1KΩ ±5% SRD1/6P
R431LR	0113615	CF 1KΩ ±5% SRD1/6P
R432LR	0113575	CF 22KΩ ±5% SRD1/6P
R433	0113623	CF 2.2KΩ ±5% SRD1/6P (except BK)
R434	0113633	CF 5.6KΩ ±5% SRD1/6P (except BK)
R436LR	0113639	CF 10KΩ ±5% SRD1/6P
R437	0113639	CF 10KΩ ±5% SRD1/6P
R438	0113645	CF 18KΩ ±5% SRD1/6P
R439	0113641	CF 12KΩ ±5% SRD1/6P
R440	0113655	CF 47KΩ ±5% SRD1/6P
R441	0113631	CF 4.7KΩ ±5% SRD1/6P
R470LR	0113639	CF 10KΩ ±5% SRD1/6P
R471LR	0113627	CF 3.3KΩ ±5% SRD1/6P
R472LR	0113655	CF 47KΩ ±5% SRD1/6P
R473LR	0113619	CF 1.5KΩ ±5% SRD1/6P
R474LR	0113631	CF 4.7KΩ ±5% SRD1/6P

SYMBOL No.	PART No.	DESCRIPTION
R475LR	0129652	CF 75KΩ ±5% SRD1/6P
R476LR	0113649	CF 27KΩ ±5% SRD1/6P
R477LR	0113615	CF 1KΩ ±5% SRD1/6P (except BK)
R478	0113631	CF 4.7KΩ ±5% SRD1/6P
R479	0113639	CF 10KΩ ±5% SRD1/6P
R480LR	0113623	CF 2.2KΩ ±5% SRD1/6P
R481LR	0113635	CF 6.8KΩ ±5% SRD1/6P
R482	0113631	CF 4.7KΩ ±5% SRD1/6P
R483LR	0113653	CF 39KΩ ±5% SRD1/6P
R484LR	0113643	CF 15KΩ ±5% SRD1/6P
R485LR	0113633	CF 5.6KΩ ±5% SRD1/6P
R486	0113637	CF 8.2KΩ ±5% SRD1/6P
R487	0113657	CF 56KΩ ±5% SRD1/6P
R488	0113639	CF 10KΩ ±5% SRD1/6P
R489	0113645	CF 18KΩ ±5% SRD1/6P
R490	0113591	CF 100Ω ±5% SRD1/6P
R491	0113675	CF 330KΩ ±5% SRD1/6P
R501LR	0113609	CF 560Ω ±5% SRD1/6P (except ZS)
R501LR	0113623	CF 2.2KΩ ±5% SRD1/6P (for ZS)
R502LR	0113655	CF 47KΩ ±5% SRD1/6P
R503LR	0113621	CF 1.8KΩ ±5% SRD1/6P
R504LR	0113651	CF 33KΩ ±5% SRD1/6P
R505LR	0113677	CF 390KΩ ±5% SRD1/6P
R506LR	0113647	CF 22KΩ ±5% SRD1/6P
R507LR	0113647	CF 22KΩ ±5% SRD1/6P
R508LR	0113659	CF 68KΩ ±5% SRD1/6P
R551	0113621	CF 1.8KΩ ±5% SRD1/6P (except BK)
R552	0113595	CF 150Ω ±5% SRD1/6P (except BK)
R553	0113621	CF 1.8KΩ ±5% SRD1/6P (except BK)
R554	0113595	CF 150Ω ±5% SRD1/6P (except BK)
R555	0113665	CF 120KΩ ±5% SRD1/6P (except BK)
R556	0113665	CF 120KΩ ±5% SRD1/6P (except BK)
R557	0113633	CF 5.6KΩ ±5% SRD1/6P (except BK)
R558	0113639	CF 10KΩ ±5% SRD1/6P (except BK)
R559	0113629	CF 3.9KΩ ±5% SRD1/6P (except BK)
R560	0113631	CF 4.7KΩ ±5% SRD1/6P (except BK)
R600LR	0113629	CF 3.9KΩ ±5% SRD1/6P
R601LR	0113641	CF 12KΩ ±5% SRD1/6P
R602LR	0113627	CF 3.3KΩ ±5% SRD1/6P
R604LR	0113615	CF 1KΩ ±5% SRD1/6P
R605	0113617	CF 1.2KΩ ±5% SRD1/6P
R606	0113617	CF 1.2KΩ ±5% SRD1/6P
R607	0113617	CF 1.2KΩ ±5% SRD1/6P
R608	0113617	CF 1.2KΩ ±5% SRD1/6P
R609	0113617	CF 1.2KΩ ±5% SRD1/6P
R610	0113635	CF 6.8KΩ ±5% SRD1/6P
R611	0113639	CF 10KΩ ±5% SRD1/6P
R612LR	0113631	CF 4.7KΩ ±5% SRD1/6P

SYMBOL No.	PART No.	DESCRIPTION
R613LR	01136872	CF 1MΩ ±5% SRD1/6P
R614LR	0113609	CF 560Ω ±5% SRD1/6P
⚠R615	1123627	NF 330Ω ±5% SRD1/4P
⚠R616	1123627	NF 330Ω ±5% SRD1/4P
R620LR	0113635	CF 6.8KΩ ±5% SRD1/6P
R621LR	0113623	CF 2.2KΩ ±5% SRD1/6P
R651LR	0113625	CF 2.7KΩ ±5% SRD1/6P
R652LR	0113625	CF 2.7KΩ ±5% SRD1/6P
R653LR	0113637	CF 8.2KΩ ±5% SRD1/6P
R654LR	0113641	CF 12KΩ ±5% SRD1/6P
R655LR	01136872	CF 1MΩ ±5% SRD1/6P
R656LR	0113639	CF 10KΩ ±5% SRD1/6P
R657LR	0113607	CF 470Ω ±5% SRD1/6P
R658LR	0113639	CF 10KΩ ±5% SRD1/6P
R659LR	0113631	CF 4.7KΩ ±5% SRD1/6P
R660	0113639	CF 10KΩ ±5% SRD1/6P
R661	0113655	CF 47KΩ ±5% SRD1/6P
R662	0113655	CF 47KΩ ±5% SRD1/6P
R663	0113639	CF 10KΩ ±5% SRD1/6P
R664	0113639	CF 10KΩ ±5% SRD1/6P
R665LR	0113625	CF 2.7KΩ ±5% SRD1/6P
R666LR	0113615	CF 1KΩ ±5% SRD1/6P
R670	0113635	CF 6.8KΩ ±5% SRD1/6P
R671	0113631	CF 4.7KΩ ±5% SRD1/6P
R701LR	0113657	CF 56KΩ ±5% SRD1/6P
R702LR	0113603	CF 330Ω ±5% SRD1/6P
R703LR	0113657	CF 56KΩ ±5% SRD1/6P
R704LR	0129611	CF 2.7KΩ ±5% SRD1/4P
R705LR	0129611	CF 2.7KΩ ±5% SRD1/4P
R706	0113657	CF 56KΩ ±5% SRD1/6P
⚠R707	1110629	FR 470Ω ±5% RN1/4B
R708	1129607	CF 1.8KΩ ±5% SRD1/4P
R709	1129643	CF 33KΩ ±5% SRD1/4P
⚠R710	1110621	FR 100Ω ±5% RN1/4B
R711	0113647	CF 22KΩ ±5% SRD1/6P
R712	0113671	CF 220KΩ ±5% SRD1/6P
R713LR	1119139	ME 4.7Ω ±10% RN2B
R720LR	01133732	CF 4.7KΩ ±5% SRD1/2P
R750LR	0113639	CF 10KΩ ±5% SRD1/6P
R751LR	0113601	CF 270Ω ±5% SRD1/6P
R752LR	0113653	CF 39KΩ ±5% SRD1/6P
R753LR	0113655	CF 47KΩ ±5% SRD1/6P
R754LR	0113663	CF 100KΩ ±5% SRD1/6P
R755LR	01132912	CF 220Ω ±5% SRD1/2P
R756	0113625	CF 2.7KΩ ±5% SRD1/6P
R757	0113671	CF 220KΩ ±5% SRD1/6P
R758	0113639	CF 10KΩ ±5% SRD1/6P
R801	0129577	CF 470Ω ±5% SRD1/4P
R802	0129561	CF 100Ω ±5% SRD1/4P
R803	1119527	MO 330Ω ±10% RS2B
⚠R807	1123625	NF 220Ω ±5% SRD1/4P
R808	0113623	CF 2.2KΩ ±5% SRD1/6P
R809	0113637	CF 8.2KΩ ±5% SRD1/6P
R810	0129573	CF 330Ω ±5% SRD1/4P
R814	0113599	CF 220Ω ±5% SRD1/6P
R815	0129573	CF 330Ω ±5% SRD1/4P
R817	0129609	CF 2.2KΩ ±5% SRD1/4P
R818	1129601	CF 1KΩ ±5% SRD1/4P
R821	1129615	CF 3.9KΩ ±5% SRD1/4P
R822	0113615	CF 1KΩ ±5% SRD1/6P
R823	1129605	CF 1.5KΩ ±5% SRD1/4P

SYMBOL No.	PART No.	DESCRIPTION
R824	1129617	CF 4.7KΩ ±5% SRD1/4P
R826	0129577	CF 470Ω ±5% SRD1/4P
R827	0129561	CF 100Ω ±5% SRD1/4P
R901	0113615	CF 1KΩ ±5% SRD1/6P
R902	01132222	CF 27Ω ±5% SRD1/2P
R903	0113603	CF 330Ω ±5% SRD1/6P
R904	0113639	CF 10KΩ ±5% SRD1/6P
R906	0113623	CF 2.2KΩ ±5% SRD1/6P
R907	0113671	CF 220KΩ ±5% SRD1/6P
R909	01136872	CF 1MΩ ±5% SRD1/6P
R910	0113613	CF 820Ω ±5% SRD1/6P
R911	0113623	CF 2.2KΩ ±5% SRD1/6P
R912	0113639	CF 10KΩ ±5% SRD1/6P
R913	0113639	CF 10KΩ ±5% SRD1/6P
R915	0113575	CF 22Ω ±5% SRD1/6P
R916	0113575	CF 22Ω ±5% SRD1/6P
R917	0113639	CF 10KΩ ±5% SRD1/6P
R918	0113641	CF 12KΩ ±5% SRD1/6P
R920	0113651	CF 33KΩ ±5% SRD1/6P
R921	0113573	CF 47Ω ±5% SRD1/6P
R922	0113613	CF 820Ω ±5% SRD1/6P
R923	0113617	CF 1.2KΩ ±5% SRD1/6P
R924	0113627	CF 3.3KΩ ±5% SRD1/6P
R925	01136872	CF 1MΩ ±5% SRD1/6P
R926	0113647	CF 22KΩ ±5% SRD1/6P
R927	0113655	CF 47KΩ ±5% SRD1/6P
R928	0113649	CF 27KΩ ±5% SRD1/6P
R930	0113639	CF 10KΩ ±5% SRD1/6P
R931	0113639	CF 10KΩ ±5% SRD1/6P
R932	0113663	CF 100KΩ ±5% SRD1/6P
R933	0113615	CF 1KΩ ±5% SRD1/6P
R934	0113639	CF 10KΩ ±5% SRD1/6P
R935	0113639	CF 10KΩ ±5% SRD1/6P
R936	0113639	CF 10KΩ ±5% SRD1/6P
R937	0113639	CF 10KΩ ±5% SRD1/6P
R938	0113647	CF 22KΩ ±5% SRD1/6P
R939	0129894	CF 10KΩ ±5% SRD1/4P
R940	0113639	CF 10KΩ ±5% SRD1/6P
R941	0113639	CF 10KΩ ±5% SRD1/6P
R942	0113663	CF 100KΩ ±5% SRD1/6P
R943	0113639	CF 10KΩ ±5% SRD1/6P
R944	0113615	CF 1KΩ ±5% SRD1/6P
R945	0113615	CF 1KΩ ±5% SRD1/6P
R946	0113663	CF 100KΩ ±5% SRD1/6P
R948	0113647	CF 22KΩ ±5% SRD1/6P
R949	0113657	CF 56KΩ ±5% SRD1/6P
R950	0113591	CF 100Ω ±5% SRD1/6P
R951	0113639	CF 10KΩ ±5% SRD1/6P
R952	0113637	CF 8.2KΩ ±5% SRD1/6P
R953	0113675	CF 330KΩ ±5% SRD1/6P
R954	0113675	CF 330KΩ ±5% SRD1/6P
R955	0113663	CF 100KΩ ±5% SRD1/6P
R956	0113643	CF 15KΩ ±5% SRD1/6P
R957	0113635	CF 6.8KΩ ±5% SRD1/6P
R958	0113635	CF 6.8KΩ ±5% SRD1/6P
R959	0113643	CF 15KΩ ±5% SRD1/6P
R960	01136872	CF 1MΩ ±5% SRD1/6P
R961	0113663	CF 100KΩ ±5% SRD1/6P
R962	0113663	CF 100KΩ ±5% SRD1/6P
R963	0113639	CF 10KΩ ±5% SRD1/6P
R964	0113615	CF 1KΩ ±5% SRD1/6P

SYMBOL No.	PART No.	DESCRIPTION
R965	0113651	CF 33KΩ ±5% SRD1/6P
R966	0113643	CF 15KΩ ±5% SRD1/6P
R967	0113625	CF 2.7KΩ ±5% SRD1/6P
R968	0113647	CF 22KΩ ±5% SRD1/6P
R969	0113663	CF 100KΩ ±5% SRD1/6P
R970	0113639	CF 10KΩ ±5% SRD1/6P
R971	0113631	CF 4.7KΩ ±5% SRD1/6P
R972	0113647	CF 22KΩ ±5% SRD1/6P
R973	0113663	CF 100KΩ ±5% SRD1/6P
R974	0113639	CF 10KΩ ±5% SRD1/6P
R975	0113639	CF 10KΩ ±5% SRD1/6P
R976	0129908	CF 39KΩ ±5% SRD1/4P
R977	0113575	CF 22Ω ±5% SRD1/6P
R978	0113575	CF 22Ω ±5% SRD1/6P
R979	0113591	CF 100Ω ±5% SRD1/6P
R980	0113611	CF 680Ω ±5% SRD1/6P
R981LR	0113663	CF 100KΩ ±5% SRD1/6P
R982	0113639	CF 10KΩ ±5% SRD1/6P
R983L	0129880	CF 2.7KΩ ±5% SRD1/4P
R983R	0113625	CF 2.7KΩ ±5% SRD1/6P
R984LR	0113637	CF 8.2KΩ ±5% SRD1/6P
R985L	0129880	CF 2.7KΩ ±5% SRD1/4P
R985R	0113625	CF 2.7KΩ ±5% SRD1/6P
R986LR	0129846	CF 100Ω ±5% SRD1/4P
R987	0113599	CF 220Ω ±5% SRD1/6P

ICs & TRANSISTORS

IC201	23684312	AN278
IC251	2387321	AN7273
IC301	2368354	BA1330
IC351	23687412	μPB553AC
IC352	2369722	μPD1704C-531
IC353	2387421	AN6873N
IC354	2387611	BA6251
IC401	2301052	BA3416BL
IC402	2388901	BU4066B
IC470	2387402	HA12045
IC471	23696112	BA6124
IC501	2367221	NJM4558D
IC601	2387564	TC9152P
IC651	2300761	NJM2068DD
IC701	2301161	STK4142-2
IC750	2387301	M5218P
IC901	2377631	TM5050
IC902	2377673	TM5060C
IC903	23002212	NJM072
IC904	2367222	NJM4558DM
IC905	2389300	HD614042FD91
IC906	23001912	CX23035
IC907	2387441	HM6116FP-4
IC908	2300591	CX20133
IC909	2387481	HD14053B
IC910	2301291	μPC457DC
IC911	2301291	μPC457DC
FET901LR	2329721	2SK163-L
Q101	2328652	2SC1740LN(S) (for ZS)
Q102	2328805	2SK104(F) (for ZS)
Q151	2328652	2SC1740LN(S) (for ES, VS, BK)

SYMBOL No.	PART No.	DESCRIPTION
Q152	2328652	2SC1740LN(S) (for ES, VS, BK)
Q153	2329582	2SA933(R) (for ES, VS, BK)
Q154	2329582	2SA933(R) (for ES, VS, BK)
Q155	2328652	2SC1740LN(S)
Q301LR	2329553	2SC2603EFB
Q302	2329582	2SA933(R)
Q303	2329553	2SC2603EFB
Q304	2329553	2SC2603EFB
Q305	2329553	2SC2603EFB
Q306	2329582	2SA933(R)
Q307	2329582	2SA933(R)
Q351	2329553	2SC2603EFB
Q352	2329553	2SC2603EFB
Q353	2329553	2SC2603EFB (for ES, VS, BK)
Q354	2329553	2SC2603EFB (for ES, VS, BK)
Q355	2329553	2SC2603EFB
Q356	2329553	2SC2603EFB
Q401	2329553	2SC2603EFB
Q402	2329582	2SA933(R)
Q403	2329553	2SC2603EFB
Q404	2329553	2SC2603EFB
Q420LR	2329553	2SC2603EFB
Q421LR	2329553	2SC2603EFB
Q422LR	2329553	2SC2603EFB (except BK)
Q423	2329553	2SC2603EFB (except BK)
Q471	2329553	2SC2603EFB
Q472LR	2329553	2SC2603EFB (except BK)
Q481LR	2329553	2SC2603EFB
Q551	2328081	2SA844(C) (except BK)
Q552	2328081	2SA844(C) (except BK)
Q553	2329553	2SC2603EFB (except BK)
Q554	2329553	2SC2603EFB (except BK)
Q610LR	2329553	2SC2603EFB
Q651LR	2329553	2SC2603EFB
Q652LR	2317971	2SD1468(R)
Q653	2329553	2SC2603EFB
Q654	2329582	2SA933(R)
Q701	2329582	2SA933(R)
Q751	2329582	2SA933(R)
Q801	2317803	2SD1266(P)
Q802	2317883	2SB941(P)
Q803	2328652	2SC1740LN(S)
Q804	2317803	2SD1266(P)
Q805	2317823	2SD880(GR)
Q806	2317883	2SB941(P)
Q807	2328969	2SB514AL(D/E)
Q808	2317883	2SB941(P)
Q901	2327992	2SB562B
Q902	2329582	2SA933(R)
Q903	2328652	2SC1740LN(S)
Q904	2328652	2SC1740LN(S)
Q905	2328652	2SC1740LN(S)

SYMBOL No.	PART No.	DESCRIPTION
Q906	2317739	2SD330(D/E)
Q907	2328969	2SB514AL(D/E)
Q908	2328652	2SC1740LN(S)
Q909	2328652	2SC1740LN(S)
Q910	2329582	2SA933(R)
Q911	2329582	2SA933(R)

DIODES

D101	2337601	1S2473
D102	2337601	1S2473
D103	2337931	1K60R (for ZS)
D104	2337931	1K60R (for ZS)
D151	2397321	KV1260
D152	2397321	KV1260 (for ES, VS, BK)
D153	2337601	1S2473 (for ES, VS, BK)
D154	2337601	1S2473 (for ES, VS, BK)
D155	2337601	1S2473 (for ES, VS, BK)
D156	2337601	1S2473
D157	2337601	1S2473
D158	2337601	1S2473 (for ES, VS, BK)
D301	2337601	1S2473
D302	2337601	1S2473
D351	2397421	1SS133T
D352	2337601	1S2473
D353	2337601	1S2473
D354	2337601	1S2473
D355	2337601	1S2473
D356	2337601	1S2473
D357	2397421	1SS133T (except US, CS)
D358	2397421	1SS133T
D360	2397421	1SS133T
D361	2337601	1S2473
D401	2337601	1S2473
D402	2337601	1S2473
D403	2337601	1S2473
D404	2337601	1S2473
D405	2337601	1S2473
D406	2337601	1S2473
D407	2337601	1S2473
D408	2337601	1S2473
D420LR	2337601	1S2473
D470LR	2337921	1K34A
D551	2337601	1S2473 (except BK)
D552	2337601	1S2473 (except BK)
D553	2337601	1S2473 (except BK)
D554	2337601	1S2473 (except BK)
D651	2337762	ERB12-01
D671	2337601	1S2473
D672	2337601	1S2473
D701	2337601	1S2473
D702	2337601	1S2473
D703	2337151	1S2076A
D751	2337601	1S2473
⚠D801	2337461	S4VB20
⚠D802	2337461	S4VB20
D803	2337601	1S2473
D804	2337762	ERB12-01
D901	2337011	1S2076
D902	2337011	1S2076
D903	2337011	1S2076
D904	2337011	1S2076

SYMBOL No.	PART No.	DESCRIPTION
D905	2337011	1S2076
D906	2337011	1S2076
D907	2337011	1S2076
D909	2337011	1S2076
D911	2337011	1S2076
D913	2397321	KV1260
D951	2337601	1S2473
D952	2337601	1S2473
D953	2337601	1S2473
D954	2337601	1S2473
ZD351	2337515	HZ6B-2
ZD352	2337122	HZ-6B
ZD401	2337612	HZ-3A2
ZD481	2337612	HZ-3A2
ZD701	2337587	HZ5C1
ZD801	2337555	HZ11B2
ZD802	2337563	HZ-12A-3
ZD803	2337122	HZ-6B
ZD804	2337122	HZ-6B
ZD805	2337122	HZ-6B
ZD806	23371882	HZ-24-2
ZD807	2337122	HZ-6B
ZD808	2337568	HZ12C-2
ZD809	2337562	HZ-12A-2
ZD811	2337555	HZ11B2
ZD901	2337612	HZ-3A2
ZD902	2337122	HZ-6B
ZD903	2337122	HZ-6B
D351	2398422	SLR-34DC5
D481	2398422	SLR-34DC5
D482	2398422	SLR-34DC5
D483	2398422	SLR-34DC5
D484	2339032	SLR-34URC
D485	2339032	SLR-34URC
D651	2339104	SLP-660C
D652	2339104	SLP-660C
D653	2339104	SLP-660C
D654	2339104	SLP-660C
D655	2339104	SLP-660C

VARIABLE RESISTORS

RT301	0158971	10kΩ-(B) (FM MPX VCO ADJ.)
RT401LR	0158975	22kΩ-(B) (PLAYBACK GAIN ADJ.)
RT402LR	0158973	100kΩ-(B) (BIAS CURRENT ADJ.)
RT551	0158953	2kΩ-(B) (HIGH SPEED ADJ.) (except BK)
RT552	0158974	1kΩ-(B) (NORMAL SPEED ADJ.) (except BK)
RT553	0158953	2kΩ-(B) (HIGH SPEED ADJ.) (except BK)
RT554	0158974	1kΩ-(B) (NORMAL SPEED ADJ.) (except BK)
R905	0158977	4.7kΩ-(B) (LASER DIODE OUTPUT ADJ.)
R908	0158973	100kΩ-(B) (FOCUS SERVO OFFSET ADJ.)

SYMBOL No.	PART No.	DESCRIPTION
R914	0158973	100kΩ-(B) (TRACKING SERVO OFFSET ADJ.)
RV601LR	0189274	100kΩ-(C) (BASS CONTROL)
RV602LR	0189274	100kΩ-(C) (TREBLE CONTROL)
RV603	0189263	200kΩ-(Special W) (BALANCE CONTROL)
RV604LR	0158673	50kΩ-(B) (VOLUME CONTROL)
RV605	0189272	10kΩ-(B) (REC LEVEL CONTROL)
COILS & TRANSFORMERS		
L151	2136503	MW antenna coil
L152	2136504	LW antenna coil (for ES, VS, BK)
L250	2227889	Peaking coil
L420LR	2228004	Choke coil
L421	2227353	Choke coil
L422LR	2227991	Choke coil
L470LR	2137921	Dolby filter
L901	2137231	Choke coil
L902	2227907	Choke coil
T151	2136493	AM OSC coil
T152	2136494	LW OSC coil (for ES, VS, BK)
T250	2155173	FM discri coil
MISCELLANEOUS		
JK101	2689382	4P terminal
JK102	2677911	FM antenna socket (for ES, VS, BK, KS)
JK102	2658391	DIN ANT. socket (for ZS)
JK501	2678348	4P US pin jack
JK701	2689381	Speakers terminal
JK702	2677593	Headphones jack
CT151	0283127	Trimmer capacitor 20PF
CT152	0283127	Trimmer capacitor 20PF (for ES, VS, BK)
CP101	2136941	Band pass filter (for ZS)
CP251	2136312	Anti birdie filter (for VS, ZS)
CP352	0189032	Resistor array (100KΩ x 4)
CP353	0241892	Capacitor array (330PF x 7)
CP354	0189014	Resistor array (100KΩ x 7)
CP420	2137071	Coil
CP651LR	2137221	Low pass filter
CP801	1243901	CD 0.01 μF $\pm^{100}_{0}$% 400V
MD101	2425461	Tuner pack (except ZS)
MD101	2425561	Tuner pack (for ZS)
FL351	2789302	Fluorescent display tube
FL901	2789811	Fluorescent display tube
MF201	2135002	Ceramic filter
MF202	2135002	Ceramic filter (for ZS)
MF203	2135002	Ceramic filter
MF250	2155152	AM ceramic filter
X351	2789161	Crystal oscillator
X901	2780221	Crystal oscillator
X902	2780222	Crystal oscillator

SYMBOL No.	PART No.	DESCRIPTION
⚠F801	2727893	Fuse 2A 125V (for US, EW)
⚠F802	2727748	Fuse T4A (for BK)
⚠F802	2727582	Fuse T4A (for ES, VS, KS, ZS, SA)
⚠F802	2727894	Fuse 4A 125V (for US, CS, EW)
⚠F803	2727198	Fuse T800mA (for ES, VS, KS, ZS, SA)
⚠F803	2727741	Fuse T800mA (for BK)
⚠F803	2727895	Fuse 1A 125V (for US, CS, EW)
⚠F804	2727741	Fuse T800mA (for BK)
⚠F804	2727895	Fuse 1A 125V (for US, CS, EW)
⚠F804	2727198	Fuse T800mA (for ES, VS, KS, ZS, SA)
S351	2639682	Tact switch (P2/10)
S352	2639682	Tact switch (P3/11)
S353	2639682	Tact switch (P4/12)
S354	2639682	Tact switch (P5/13)
S355	2639682	Tact switch (P6/14)
S356	2639682	Tact switch (P7/15)
S357	2639682	Tact switch (P8/16)
S358	2639682	Tact switch (SHIFT)
S359	2639682	Tact switch (MEMORY)
S360	2639682	Tact switch (TUNING UP)
S361	2639682	Tact switch (TUNING DOWN)
S362	2639682	Tact switch (P1/9)
S363	2639682	Tact switch (FM) (for ES, VS, BK)
S364	2639682	Tact switch (MW/FM)
S365	2639682	Tact switch [LW/MW(AM)]
S366	2639682	Tact switch (AUTO/MONO)
S370	2627931	Slide switch (SPACING) (for US, EW)
S401	2628491	Slide switch (REC/PLAY SELECT)
S402	2600047	1 key push switch (TAPE SELECT)
S403	2600049	1 key push switch (RIF/DUBBING SPEED SELECT)
S404	2600049	1 key push switch (DOLBY NR)
S601	2639682	Tact switch (PHONO)
S602	2639682	Tact switch (AUX)
S603	2639682	Tact switch (TAPE)
S604	2639682	Tact switch (CD)
S605	2639682	Tact switch (TUNER)
⚠S801	2600151	Push switch (POWER)
S901	2639152	Push switch (OPEN)
S902	2639152	Push switch (LASER)
S951	2639682	Tact switch (PLAY/PAUSE)
S952	2639682	Tact switch (STOP/CLEAR)
S953	2639682	Tact switch (FF)
S954	2639682	Tact switch (BACKWARD SKIP)
S955	2639682	Tact switch (FORWARD SKIP)
S956	2639682	Tact switch (MEMORY)
S957	2639682	Tact switch (REPEAT)
S958	2639682	Tact switch (FB)
S959	2639682	Tact switch (TRACK/TIME)

SYMBOL No.	PART No.	DESCRIPTION
		CABINET CHASSIS
1	86914102	BT bind head screw (3 ϕ x 10)
2	86914252	BT bind head screw (3 ϕ x 25)
3	3307401	Volume knob (BLACK)
	3307402	Volume knob (WHITE)
4	3307371	Button (BLACK)
	3307372	Button (WHITE)
5	4043931	Top case assy (BLACK) [for ES, VS]
	4043971	Top case assy (WHITE) [for ES, VS]
	4043932	Top case assy (BLACK) [for KS, ZS, SA, CS, EW]
	4043972	Top case assy (WHITE) [for KS, ZS, SA, CS, EW]
	4043933	Top case assy (BLACK) [for US]
	4043973	Top case assy (WHITE) [for US]
	4043934	Top case assy (BLACK) [for BK]
	4043974	Top case assy (WHITE) [for BK]
6	4848921	Cassette door assy
7	4848931	CD door assy
8	4567412	DT bind head screw (3 ϕ x 8)
9	3908591	Damper
10	3907811	Washer
11	4469185	PU cover
12	4469262	Spring (L)
13	4469252	Spring (R)
14	86913082	Bind tapping screw (2.6 ϕ x 8)
15	3307443	Function button (BLACK)
	3307444	Function button (WHITE)
16	3307391	Station button
17	3307355	Tuning button (BLACK) [for ES, VS, BK]
	3307356	Tuning button (WHITE) [for ES, VS, BK]
	3307357	Tuning button (BLACK) [except ES, VS, BK]
	3307358	Tuning button (WHITE) [except ES, VS, BK]
18	3307392	Station button
19	3307393	Station button
20	3307361	Auto button
21	3805331	Clamper
22	4043951	Bottom case assy (BLACK) [for ES]
	4043991	Bottom case assy (WHITE) [for ES]
	4043952	Bottom case assy (BLACK) [for VS]
	4043992	Bottom case assy (WHITE) [for VS]
	4043953	Bottom case assy (BLACK) [for BK, SA]
	4043993	Bottom case assy (WHITE) [for BS, SA]
	4043954	Bottom case assy (BLACK) [for KS]
	4043994	Bottom case assy (WHITE) [for KS]
	4043955	Bottom case assy (BLACK) [for ZS]
	4043995	Bottom case assy (WHITE) [for ZS]
	4043956	Bottom case assy (BLACK) [for US]
	4043996	Bottom case assy (WHITE) [for US]
	4043957	Bottom case assy (BLACK) [for CS]
	4043997	Bottom case assy (WHITE) [for CS]
	4043958	Bottom case assy (BLACK) [for EW]
	4043998	Bottom case assy (WHITE) [for EW]
23	3802263	Button decoration piece (BLACK)
	3802264	Button decoration piece (WHITE)
24	3307433	Operation button (BLACK)
	3307434	Operation button (WHITE)
25	3307456	Button (BLACK)
	3307457	Button (WHITE)
26	3307411	Push button (SHIFT)
27	3307412	Push button (MEMORY)
28	3307413	Push button (REPEAT)
29	3368891	CD open wire
30	3802282	Open button holder
31	3807424	Button (BLACK)
	3807425	Button (WHITE)
32	3368901	Cassette open wire
33	4702154	Washer [for ZS]
34	3368872	Spring
35	3907541	Switch cover
36	3307381	Push button
37	4469222	Net (BLACK)
	4469223	Net (WHITE)
38	4567422	DT bind head screw (4 ϕ x 8) (power transformer)
39	86994102	BT bind head screw (3 ϕ x 10)
40	8699414	BT bind head screw (3 ϕ x 14) [for ZS]
41	4567411	DT bind head screw (3 ϕ x 6)
42	4567432	DT bind head screw (3 ϕ x 8) [for US, EW] (voltage select switch)
⚠43	2249631	Power transformer [for ES, VS, KS, ZS]
⚠	2249632	Power transformer [for BK, SA]
⚠	2249633	Power transformer [for CS]
⚠	2249634	Power transformer [for US, EW]
⚠44	2618053	Voltage select switch [for US, EW]
⚠45	3913006	Bushing [except EW]
⚠	00437932	Bushing [for EW]
⚠46	2712101	Power supply cord [for ES, VS, KS, ZS]
⚠	2749582	Power supply cord [for BK]
⚠	2749622	Power supply cord [for SA]
⚠	2712311	Power supply cord [for US, CS]
⚠	2718113	Power supply cord [for EW]
47	4042681	Unit mechanism assy
48	4594961	Frote screw
49	4584941	Screw
50	4469171	Holder
51	4691991	Rubber
52	2589231	Mechanism assy (TN-21) [except BK]
	2588951	Mechanism assy (TN-21) [for BK]
53	3307343	Deck button (BLACK)
	3307344	Deck button (WHITE)
54	2789692	MH counter
55	4686548	Counter belt
56	4582511	DT screw (2 ϕ x 4)
57	4469311	REC spring
58	88131112	Washer
59	8741103	Bind screw (2 ϕ x 3)
60	3368353	Spring
61	2588232	Mechanism assy (TN-21) [except BK]
	2588952	Mechanism assy (TN-21) [for BK]
62	8691418	BT screw(3 ϕ x18) (IC701)
63	4819232	Button lever shaft
64	4819072	Screw (2 ϕ x 7) (button holder)
65	86914142	BT bind head screw (3 ϕ x 14) (Q804)
66	3391901	Spring
67	3391902	Spring
68	3391903	Spring
69	3391904	Spring
		for ACCESSORIES
⚠	2667922	Siemens plug [for EW]
	2757528	FM antenna
	4023261	AM loop antenna assy
	3802462	Spacer assy

SYMBOL No.	PART No.	DESCRIPTION
		CASSETTE CHASSIS
1	4818992	Switch plate
2	4832521	Push button actuator
3	4823651	REC button lever (for TAPE 2)
4	4823661	PLAY button lever
5	4823671	RWD button lever
6	4823681	FF button lever
7	4823691	STOP button lever
8	4823701	PAUSE button lever
9	4818990	RWD lever
10	4819131	PAUSE lever
11	4819132	PAUSE lever spring
12	4819133	PAUSE stopper
13	4820215	Sub chassis
14	4819007	Button spring
15	4819100	Button lever spring
16	4831613	Button lever spring (except BK)
	4820214	Button lever spring (for BK)
17	4819008	Actuator spring
18	4819009	Auto lever
19	4819000	Auto lever spring
20	4820217	PLAY button lever spring
21	4848951	Leaf switch (except BK)
	4826101	Leaf switch (for BK)
22	4820218	Switch actuator spring
23	4820219	Head panel (for TAPE 1)
	4831614	Head panel (for TAPE 2)
24	4819014	Head base (for TAPE 1)
	4819528	Head base (for TAPE 2)
25	4832412	Sensing plate assy
26	4820221	Head panel spring
27	4819006	PR stopper
28	4819017	Spring
29	4819529	E.H spring (for TAPE 2)
30	4832522	Screw (pressure roller arm)
31	4848082	Pinch roller spring (except BK for TAPE 1)
	4820223	Pressure roller arm spring (except BK for TAPE 2/for BK)
32	4820225	RF pulley arm spring
33	4820226	RF arm collar screw (RF pulley arm) (except BK)
	4832414	RF arm collar screw (RF pulley arm) (for BK)
34	4833453	Pulley arm assy (except BK)
	4832413	RF pulley arm (for BK)
35	4842433	Bracket (except BK)
36	4820227	Belt
37	4832417	FF gear
38	4820231	Flywheel assy
39	4839377	Take up gear plate assy (except BK)
	4832415	Take up gear plate assy (for BK)
40	4819020	TG plate spring
41	4839378	Take up roller gear (except BK)
	4832416	Take up roller gear (for BK)
42	4842431	Supply reel assy (except BK)
	4819033	Supply reel assy
43	4839381	Take up reel assy (except BK)
	4819034	Take up reel assy (for BK)
44	4832421	Record safety lever (for TAPE 2)
45	4839382	Back tension spring (except BK)
	4819037	Spring (for BK)
46	4839379	Back tension spring (except BK)
	4819032	Spring (for BK)
47	4819039	Motor rubber
48	4819533	Motor collar screw
49	4832532	Main belt
50	4820241	Mat
51	4820242	Pack spring
52	4819050	R/P head (for TAPE 2)
	4819587	P head (for TAPE 1)
53	4819541	Erase head (for TAPE 2)
54	4832404	Motor assy (except BK)
	4832402	Motor assy (for BK)
55	4819063	Tapping screw (2 ϕ x 3) (pack spring)
56	4819068	Tapping screw (2 ϕ x 4) (motor bracket, metal guide)
57	4819607	Bind tapping screw (2 ϕ x 5) (metal guide, sub chassis, reel base assy)
58	4819611	Screw (2 ϕ x 6) (head base) (for TAPE 1)
59	4819060	Screw (2 ϕ x 7) (P head, R/P head)
60	4819600	Azimuth screw (P head, R/P head)
61	4819544	Cap screw (2 ϕ x 8) (for TAPE 2) (erase head)
62	4842434	Camera tapping screw (2 ϕ x 3.5) (except BK) (bracket)
63	4819078	Washer (1.55 ϕ x 3.8 x 0.5)
64	4832432	Washer (2.05 ϕ x 4 x 0.5)
65	4848953	Washer (1.2 ϕ x 3.7 x 0.4) (except BK)
	4819077	Washer (1.2 ϕ x 3 x 0.4) (for BK)
66	4848081	Callar (except BK)
67	4839372	Pinch roller arm assy (except BK)
	4820222	Pressure roller arm assy (for BK)
68	4831610	Metal guide
69	4832531	Motor bracket
70	4746405	Motor sheet
		UNIT MECHANISM
1	4040622	DC motor assy
2	4418005	PS washer
3	3976432	Send gear
4	2523973	DC motor (D2)
5	8711103	Pan head screw (2 ϕ x 3) (DC motor assy, DC motor)
6	3805291	Turn table
7	4468942	Unite plate assy
8	4594723	Guide bar
9	2780071	Micro switch

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